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# Cleanings in Bee Culture



A part of the apiary of W. W. Lowrance, Centerville, Texas. The hives, a hundred in all, are shaded by peach trees and castor-oil plants.

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# GLEANINGS IN BEE CULTURE

Published by The A. I. Root Company, Medina, Ohio

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No. 21



CAUCASIAN blood is recommended, p. 1310, to get queen-cells started. The only Cyprian colony I ever had would start perhaps three times as many cells as Italians. Are Caucasians better cell-starters than Cyprians? [No, Caucasians are not as good cell-builders as Cyprians; but they are much better than Italians.—Ed.]

ABRAM TITOFF makes some good comments on the plural-queen system, p. 1328; but that it's against the laws of nature is hardly a valid objection. On the same ground we ought not to fill brood-frames with worker foundation to limit drone production. But the one point that makes the plan appeal to me he utterly ignores. *If* it will prevent swarming, I want two queens in every hive, nature or no nature.

THAT IDEAL bottom-rack, p. 1324, Fig. 2. I said I had not tried it, and I was a little afraid that a space of  $\frac{1}{2}$  inch under bottom-bars was too much. I was also afraid that the bees might gnaw any thing so thin as separator stuff. I tried a few the past summer, and am happy to report they are a perfect success. Do you realize that it's quite an item to have an air-space two inches deep under bottom-bars all summer long, and yet no building down?

MR. EDITOR, I'm much obliged to you for being back at your work "with renewed vigor" (p. 1308), but please repress that vigor just a bit so as to last longer. I don't want you to go dead yet, just as prohibition all over the land seems to be coming in sight. [Ye editor is going slow, notwithstanding the doctors at the hospital said he made a "star recovery." He suffered no pain to

speak of after the operation; the second day had a back rest, in a week was walking around, and on the tenth came home. Yes, we should like to live a little longer to witness the good times that are coming, not only in material progress but in morals.—Ed.]

MY THANKS are hereby tendered to Allen Latham, and my apologies to G. M. Doolittle. At the same time I'm not sure but the said Doolittle owes me an apology for not giving the page in *American Bee Journal* where he found me saying that bees do not gather honey and pollen on the same trip (GLEANINGS, p. 1015), for I felt confident I could show that he had misread. Mr. Latham helps out by citing me to *American Bee Journal*, page 571. There it is in cold type, so plainly stated that I can not by any possibility explain it away, "yet the same bee never carries both on the same trip." *I believe they often gather both on the same trip.* I'm not a somnambulist, I don't drink whisky, wine, nor beer, and how I came to write what I did is something I can't explain.

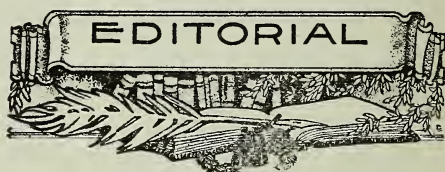
E. B. KIBBE wants to know whether sheep in an apiary trouble the bees or the bees trouble the sheep. Both. If the hives are low down, the sheep rub against them and push them off their stands. This summer a sheep got into the small enclosure containing the Wilson apiary, and I found the sheep dead. But with a little watching, sheep, or a flock of sheep, might be turned in, and they do beautiful work trimming down the grass. [Dr. Miller is about right. In some cases sheep will do no harm, and in others there appears to be some danger both to the sheep as well as to the bees. If the hives are large, and solidly placed on their stands, there will not be much liability of the sheep bumping them off. Last summer we let a flock of sheep in among our baby nuclei. We found in some cases that they bumped the little boxes clear off their stands, and some of the sheep got pretty badly stung.—Ed.]

I'M AFRAID you don't quite catch the idea of Rev. Mr. Luger, Mr. Editor, page 1308. Wintering and springing may be equally important with queen culture, and the right

pasturage may be more important than either; but it is not a matter of importance that is in question. We would hardly vote a man an expert in bee keeping just because he happened to be in a fine honey location. He probably means that it requires more skill to be an adept in queen culture than to succeed in wintering or springing. Whether he is right or not in his comparative judgment, it is probably quite certain that the average bee-keeper would greatly increase his income if he would give proper attention to queen culture. [If Rev. Mr. Luger meant that it required more skill to rear queens than to winter or spring successfully he is certainly right. The most difficult problem in all bee culture, in our judgment, is the rearing of high-class queens that will produce more honey than the average common run of stock.—ED.]

IT MAY BE remembered that for several years I had been breeding from queens whose colonies gave largest crops, with least inclination to swarming, regardless of color, my bees being hybrids with Italian blood predominating, but with evil tempers, and that last year I got 10 Italian queens with the expectation on the part of a certain editor, as also a strong desire on my part, that the best of the 10 would turn out to be equal to the best of my hybrids. The past season was not one which allowed a big yield from any colony, white clover blooming freely but not yielding—at least till late in the season, and not much then—but later on I had a fair flow of white honey from other plants, allowing a fair chance for comparison. The Italians seemed in the lead at building up strong, and I think they held that lead throughout the season. But they didn't seem to take hold at storing with the same vim as the hybrids. No. 34 was the best of the Italians, and it produced 96 sections. The best of the hybrids was No. 211, which produced 168 sections, or 75 per cent more than the best Italian. I don't think that shows that Italians in their purity are poor, but that persistent selection for years in breeding from best honey-gatherers without regard to color has materially increased the yield of my hybrids. The question is whether I might not have done as well to have adhered rigidly to the pure bloods. At any rate, if I had it to do over again I think that's what I should do. Another question which immediately confronts me—and I'd give a good deal for the right answer—is this: Shall I give up the fruit of years of selection, and start in afresh with pure blood, or hold on to my big yields and live among hornets? [Better keep on breeding those "hornets." If there is a difference of 75 per cent between them and the gentler strains of Italians, you can well afford to wear a veil and wear bee-gloves, because the mere matter of stings can not compare with one of dollars; and, after all, one can put on enough armor so that he would suffer no great inconvenience, and on the other hand he has the comfortable assurance that no mischievous boys or petty thieves would meddle with the hives.]

At one of our outyards, when we had been having some trouble from meddlers, we put a very cross colony at the front and entrance of the yard. We afterward learned that some boys concluded they would help themselves to some honey. They "tackled" this particular colony because it was right handy. An eye witness described the events that followed as something really funny. The boys ran only because they couldn't fly. Of course the one season should not be regarded as a final test between those hybrids and Italians. We hope, doctor, you can continue experimenting for several years at least. In the meantime we are of the opinion with yourself that, if you had devoted the same time and thought on a pure strain of Italians, you would have secured practically the same results so far as honey is concerned. Mr. Alexander believes that he has pure stock that will equal any hybrids, besides their being much more pleasant to handle.—ED.]



ONE of the features of the German and Austro-Hungarian bee-keepers' meeting at Frankfurt was an address or paper by a Mr. Fleischmann, of Sonderhausen, who gave out very interesting information with respect to the improvement in the color of dark Australian honey when subjected to the action of currents of electricity. More later.

W. K. M.

THE September number of *Le Progres Apicole* (Belgium) states that the country of Limbourg has just been invaded by millions of foreigners. This is due to the flowering of the heather at the moment in the district of Campine; inducing the bee-keepers of Holland and Germany to send thousands of hives of bees to participate in the great harvest of honey to be obtained. It is estimated that the bees numbered several hundred millions, allowing 50,000 to each hive. This gives us a delightful glimpse of European bee-keeping.

W. K. M.

QUITE a number of our readers have lately sent us clippings from prominent daily papers giving an account of what is termed a most extraordinary discovery by a professor in Lausanne, Switzerland, whereby he creates honey from a mixture of crushed bees and the sweet sap of all sorts of plants.

This yarn is not less than forty years old. These intended aspersions on the honey industry will not do us any harm, now that the pure-food laws are actively enforced. It is, however, a matter of regret that newspapers catering to an intelligent class of read-



ers should see fit to print such nonsense when there is so much of real interest that is never published about the bee industry except what appears in the regular bee-journals.

W. K. M.

DR. CHARLES A. BROWNE, of the Bureau of Chemistry, United States Department of Agriculture, is engaged in the extended analysis of 100 specimens of American honey obtained by purchase at the St. Louis exposition. In addition, various other specimens of colonial and foreign honey will also be analyzed so that the Department will soon be in possession of a mass of accurate data on the subject of honey. Of course, the data are mainly required for the purpose of enforcing the provisions of the food and drugs act; but when published in pamphlet form it will be useful for other purposes besides that.

W. K. M.

#### SOME HONEY MOVING.

WHILE the season has been a short one, some of the honey-men have apparently done a good business in buying and selling honey. We happen to know that Mr. C. H. W. Weber, of Cincinnati, has bought this year seven carloads of Colorado comb honey, two carloads of Wisconsin white-clover comb honey, also several carloads of California water-white sage. As Mr. Weber is one of those men who buy and pay cash he is doing a real service to the producers at large. If other dealers have done as well it is apparent that considerable honey has been moving quietly without the knowledge of the general public.

#### THE MAL DE MAI.

THE foreign bee-journals of late have been devoting considerable space to remarks on the disease known as "mal de mai," or May disease of bees. One authority states that certain flowers, when the bees are at work on them, seem to bring on or develop this trouble, and instance *Cannabis Indica*, the *Oxyacantha spinosa*, and the *Centaurea*, or blue cornflower. The mal de mai is a sort of frenzy; and, that being so, it is easy to see how *Cannabis Indica* can be a contributing cause, because the people of the East have long used the resin or extract of cannabis as a powerful stimulant, producing frenzy, and quite infrequently insanity, by habitual users of it. The East Indians, who use this largely, name this substance ganjah. Some good authorities now think it was this substance which caused the downfall of King Solomon. Hamet attributed this disease to the charlock, or wild mustard.

W. K. M.

#### THE PLURAL-QUEEN SCHEME TESTED AT MEDINA.

THE boys have been conducting some experiments in introducing a plurality of queens in one colony. They succeeded in introducing the queens, and they stayed for a short time; but an examination to-day,

just as they are about to be put in their winter quarters, showed that all the queens were missing but one. We should like to inquire of Mr. Alexander whether he is able to work with two or more queens in a hive without perforated zinc at this time of the year.

#### KEEPING COLONIES IN PAIRS FOR THE PURPOSE OF UNITING.

USUALLY it is not very satisfactory to unite several weak colonies located remote from each other in the same yard. To obviate the losses from returning bees, our Mr. Wardell has so planned as to have his weak colonies in pairs, but on separate hive-stands. When he got through with his queen-rearing operations he took away one of the hives, putting its brood and bees in the other, and then moving that hive and all to a spot midway between where the other two stood. The hive so placed will catch the flying bees, and, what is more, there will be no losses from returning bees.

While this is an old trick of the trade, well known to the veterans, it is one of the tricks that ought to be mentioned once in a while for the benefit of our new readers.

#### THE HONEY MARKET.

AN examination of the market reports for several issues back show a gradual and steady increase in prices on comb and extracted. Some of those who were offering so much lower than others found it necessary to make an advance to get consignments. Others, who were offering the high prices, reduced their figures slightly, so that the markets are obtaining more nearly a level on comb honey, the prices ranging from 17 to 19 and 20 cts., wholesale. While this advance has been due to shortage we believe it is also owing to the fact that we have advised producers to hold for better prices which we were sure were bound to come.

As we stated in our last issue, we would not advise producers to hold their crop of No. 1 and fancy any longer. There is some danger of a slight decline in prices at the holidays, although the general shortage will not allow much of a drop, if any. Honey for manufacturing purposes does not seem to fluctuate so much in price, because the bakers make a steady call for it.

#### A VISIT FROM AN EXTENSIVE PRODUCER; CALIFORNIA HONEY AND ITS EFFECT ON EASTERN PRICES.

WE have just been favored with a visit from Mr. and Mrs. L. E. Mercer, of Ventura, Cal. Mr. Mercer has long been an extensive producer of honey in his State. At present he operates 1800 colonies, running them for extracted honey. His bees are located in territory that will never be capable of growing farm crops. It has no use, and never will have, except to furnish pasturage for bees. The same may be said of some other fine bee-ranges in California. The mountain sides will grow nothing but sage, and in a

favorable year—only about one in five in California—a good crop of honey will be harvested.

We asked Mr. Mercer if it were true that California in a good year could export 500 carloads of honey.

"Oh, yes!" said he. "I remember one year when there were 600 carloads shipped out of the State."

This did not take into account the honey consumed locally. How much this might be, no one could tell.

We asked whether California had any sage honey left. Mr. Mercer replied that it was practically all gone. Not very much has been shipped out of that State this year, owing to the lightness of the crop, and the State is getting to be so largely a consumer of its own product that there is a possibility and even a probability that in a good year it will not ship much honey beyond its own borders. In years past, when there was a big crop of sage, the local consumption was so light that the bulk of it was dumped on the eastern markets, with the result that prices would take a slump. The indications now go to show that this will not occur again, or at least not to the same extent. If California ships beyond her own borders, the honey will be taken up before it gets to the Mississippi River. *Vice versa*, when she has a light year she has to buy from States on her borders.

#### THAT BEE PARADISE IN TEXAS.

CLOSELY following the departure of Mr. L. E. Mercer we had a call from Mr. W. F. Rice, of Uvalde, Texas. He is a young bee-keeper who has kept bees in that section of the State for six or seven years; but he has been sojourning in this part of the country, taking a course of treatment at the Battle Creek Sanitarium, and expects to return along about the holidays.

Our readers will remember that the territory in and about Uvalde we once called the "bee paradise" of America. When we stopped at the hotel at the place seven years ago we heard nothing but bee-talk; and when we went out into the streets one man would hail another, saying, "How are your bees coming on?" Every one, in fact, seemed to be keeping bees. While this was not literally true, the business was an important industry in the country.

It is still a wonderful bee country; but according to Mr. Rice it is considerably overstocked. The bee-keeping was so profitable that many began to engage in it, with the result that the territory now has more bees and bee-keepers than it can stand profitably.

This is the region where the huajilla (or guajilla\*), the catclaw, and the mesquite honey are produced. The first mentioned is practically as white and clear as a glass of spring water—the whitest honey in the world. The body and flavor of it are also of the very finest. The catclaw is another good table

honey, and large quantities of it are produced.

Mr. Rice says that agriculture is being introduced to some extent, for at one time, or at least at the time of our visit, bee-keeping and cattle-raising were the two main if not the only pursuits. When we asked if agriculture was likely to crowd out bee-keeping our visitor replied in the negative. Most of the honey produced in that region is from trees and shrubs or plants; and he did not think agriculture would ever encroach on these sources of honey.

#### BEE-STINGS FOR RHEUMATISM.

IN this issue, on page 1382, is a photograph of a bee demonstration showing the application of stings for the cure of rheumatism. This is by no means a new feat before a crowd. Prof. H. A. Surface, of Harrisburg, has given a number of demonstrations of this kind before his students and before the general public.

At the Jenkintown field-day exhibition it will be remembered that an old gentleman came forward and bared his arm when an attendant applied sting after sting to the affected part. The patient said he always felt relieved after the application of the poison, and that was not the first time he had received treatment. Mr. W. A. Selser, of Philadelphia, has applied the stings on numerous occasions.

For certain kinds of rheumatism it would seem that these hypodermic injections of poison do a great deal of good. Reports have been received and published in these columns to the effect that certain persons subject to rheumatism, after engaging in bee culture, and being stung, were greatly relieved. We have had other reports where the stings seemed to have no effect one way or the other.

The policy of GLEANINGS is neither to affirm nor deny the efficacy of the poison for rheumatism; but it is willing to receive reports both favorable and unfavorable in order that we may get at the truth of the matter.

THE PHRASING OF HONEY-LABELS, AGAIN; A SUGGESTION THAT THE NATIONAL BEE-KEEPERS' ASSOCIATION ARRANGE TO HAVE A FRIENDLY SUIT BY WHICH A DECISION CAN BE SECURED FROM THE COURTS.

THE following letter from M. D. Offutt raises some questions that, perhaps, have not been fully considered as yet, and we are glad to place them before our readers:

*Mr. Editor:*—I have seen your remarks, p. 1132, on the subject of honey-labels. It seems to me that when a producer buys honey to bottle and sell again he should be permitted to mix in his own honey, forming one blend of pure honey, and sell all under one label and guarantee, such as "put up by;" but when one claims to be the producer, the phrase "produced by" would have to be used; otherwise no claim as producer would be implied, although he may have produced part of the blend of pure honey.

Midway, Ky., Sept. 3.

M. D. OFFUTT.

As we understand this whole honey-label proposition, one is not required to use the words "produced by" on his own production; but it is a contravention of the law to

\* Will some one who knows tell which is the right way to spell this?



use this wording on any honey bought of another, even though that purchased honey is mixed with one's own production. The words "put up by" have not thus far received the recognition or sanction of the government officials, although they offer no objection to the words "distributed by" or "bottled by." It is our opinion that, if a test case were to be made, the courts would allow the phrase "put up by" on any honey purchased or produced by the bottler. We do not see why the same phrase could not cover both. This question can not be definitely determined until it has been adjudicated by the courts.

As long as there is a state of uncertainty we would suggest that the General Manager of the National Bee-keepers' Association take the necessary steps to have a friendly suit taken so that the question may be definitely settled.

#### THE HONEY SEASON FOR GREAT BRITAIN AND FRANCE.

THE results of the honey season throughout the British islands have been rather disappointing this year, and from practically the same causes as operated in this country, to cause a short crop. In France, also, the honey yield has on the whole been poor, due to cold and rainy weather during the summer months. This is more particularly true in the north and west of France. There was plenty of sainfoin clover in bloom, but the bees either could not get out at all, or if they did venture abroad they were caught in heavy showers of rain, whereby many of them perished. Mr. Edward Bertrand, in Switzerland, reports honey was never better in quality but short in quantity. W. K. M.

#### GLUCOSE SYRUP VS. CORN SYRUP.

THERE has been evolved during recent years quite a considerable prejudice against glucose as a food, hence the Corn Products Co. asked for a hearing before the Board of Food and Drug Inspection that it might be allowed to label glucose as "corn syrup." The hearing was set for September 30, but we have not as yet been informed as to the result of the hearing.

We do not see how the Board can allow such a label to pass, as "corn syrup" is not always made from corn starch; on the contrary, large quantities are made in Europe from potato starch, and it could readily be made from cassava starch in the South, probably, at a lower cost than when it is made from corn starch. The word "glucose" is as accurate and truthful as it is possible to be, and we do not see why it should be canceled in favor of a word that, to say the least, is ambiguous and misleading. The time may come when we will produce real corn syrup in this country from the sap of the cornstalk; for when the corn-plant is prevented from forming ears it secretes quite a quantity of sweet juice. In fact, it has been suggested we might get our sugar in this way. Glucose has been used so extensively as an

adulterant that bee-keepers will want to know just where this matter stands. If there is any product that wants to be clearly and accurately labeled it is glucose.

The extraordinary part of this controversy is that a perfectly truthful and accurate name should be objected to. W. K. M.

#### IS PARTHENOGENESIS A MYTH?

IN Germany some of the bee-journals are considerably exercised over the appearance of a new book by Professor Kuckuch, of the University of Moscow, entitled "There is no Parthenogenesis." The book is edited by Dickel, the celebrated German opponent of parthenogenesis, who supplies, of course, an introductory note in its favor.

In this connection we are in receipt of a very nice letter from Miss Adele M. Fielde, now traveling on the Pacific coast, who has supplied the scientific world with considerable additions to the accumulated knowledge of ants, in which she says that parthenogenesis has been proved in ants. Let me give her own words: "My ants were virgin workers, and all question of their virginity was settled by their segregation from all other ants, of any sex, from their own pupæ stage, and within their cocoons up to the time when their offspring were hatched and active. There was no opportunity for the fertilization of their eggs, which were always kept in segregated ants. The result of the experiments, which included three species, if I rightly remember, showed that unfertilized ant eggs produce male ants. An unfertilized queen's eggs produced 63 male ants and no females or workers."

The above strikingly confirms what we know about bees in the same connection, and it is a wonder our European friends are so easily drawn into the vortex of a profitless discussion. What we want is more observation. W. K. M.

#### THE DEALER AND NOT THE PRODUCER GETS THE BENEFIT OF THE HIGH PRICES.

OUT in the State of Washington the retail grocers in convention assembled have declared against the present oleomargarine law, saying it caused the price of butter to be raised at least 8 cents per pound. This looks to us as if the law were a good thing, because it is evident that oleo can be used to depress the price of butter considerably below its natural value. The present law demands a revenue tax of 10 cents per pound on colored oleo, and this the grocers want removed, evidently so they can sell for butter whenever the customer can be duped.

This leads us to inquire how far the low prices of honey are due to the desire of retailers to obtain a very high profit. Bee-keepers are inclined to blame the wholesalers and jobbers, but that is not where the shoe pinches. A little over a year ago, when comb honey of fair quality was selling in New York at 15 cents a pound wholesale, the retailers over in Brooklyn were selling a section for 30 cents. It was practically the same

with extracted honey, which was then quoted at 7 cts., unbottled, of course. When this was bottled, and a neat label put on it, the price took wings and went to 20 and 25 cents a pound. In any event, the retailer actually made a greater profit out of each pound of honey than the bee-keeper got all together for producing it. There seems to be an idea among the retailers that honey is one of those commodities like coffee and tea which are made to pay double profits.

Bee-keepers, if they are to reap the fruits of their labors which rightly belong to them, may have to take some kind of action calculated to compel the grocers to adopt a more reasonable course. W. K. M.

#### INVERT SUGAR AS A SUBSTITUTE FOR HONEY.

SOME of the journals, both in this and other countries, have devoted considerable space of late to the favorable consideration of an address made at Breslau, Silesia (Prussia), by Dr. A. Herzfeld, a prominent authority on the beet-sugar industry, wherein he claims great things for invert sugar as an absolute substitute for honey. Evidently the newspapers think this is something new, and that a great discovery has been made. Let us see.

Invert sugar is not very new, for it has been manufactured for a quarter of a century, perhaps longer. Some of the German bee-journals admit advertisements of invert sugar as a bee-food, and have done so for years. The sugar is "inverted" by means of hydrochloric acid and water. This sugar (we have some of it here, and have had for some time) solidifies after a rest, just as honey does. It, therefore, acts in some respects just like honey. To say that it is a substitute for honey is to shoot very wide of the mark, for it lacks the very ingredient which gives honey its intrinsic value; namely, "flavor." We know that fine flavor in any food is worth money, and physiologists are now all agreed that flavor has much to do with the real value of any food to the human system. Fine flavors induce the digestive system to work in its best manner, and therefore the exquisite flavor of honey has a real value as a promoter of health.

At first it was thought that invert sugar would pass a chemical test for honey; but this is not the case, however, and a method of detecting this form of substitution was soon discovered. The sense of taste is a pretty good test, because it has no flavor of flowers to recommend it to the palate. Only a few weeks ago the German Austro-Hungarian bee-keepers condemned its use as a feed for bees while they were storing honey; and Professor Von Raumer, of the University of Erlangen, who is an authority on pure food, second to none, said at the same time that honey so produced was, in the eyes of the law, a clear case of adulteration, and should be so dealt with. Dr. Herzfeld seems to have gone further, and recommended the addition of invert sugar to strongly flavored honey, claiming this would be a benefit to both the bee-keeping and the sugar-making

industries. He claimed that honeys from chestnut, rye, asparagus, wild mustard, and onion flowers have a disagreeable flavor, and that the addition of invert sugar improved them. This looks like the temptation of the serpent in the garden of Eden. Luckily for us in this country the pure food laws are too stringent to permit this, and the offender is liable to severe penalties. It is very likely, however, some one will try this ere long, no doubt thinking "there are millions in it."

W. K. M.

#### SWEET CLOVER IN AUSTRALIA.

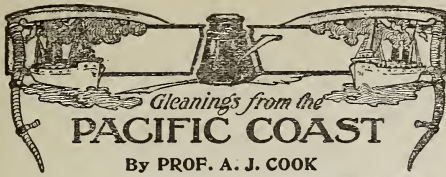
THE Australian journals are having a good deal to say at present about the subject of yellow sweet clover. This is due to the remarkable success attained by its use on King Island, which lies a little to the south of Australia, and which forms a part of Tasmania. A Mr. W. C. Macdougall, of Sydney, has succeeded in interesting the agricultural department with a view to the more extended trial of the sweet clover. He says in the *Journal of Agriculture* for West Australia that the seed was sown in raw white sand, and in five or six years this was changed to an almost dark rich loam capable of maintaining one steer to the acre from September to January—5 months. He further says the growth is similar to alfalfa, and that, when cut while it is in flower, it yields nearly two tons of excellent hay, which horses, cattle, and sheep are very fond of. The ensilage made from it is also excellent, and yields from 5 to 7 tons per acre of green material. For fattening and dairying purposes he says it is excellent, and that 75 per cent of the fodder on the island is from this source, and that both the beef and butter command the highest market prices. Fed exclusively, it taints the butter slightly, but not enough to injure the sale in any way. Instead of cutting it close with a mower, as is done in Kansas and Colorado, the King Islanders burn it off their pastures every year, and they think this has something to do with the rapid improvement of the land.

In this way weeds are kept down, and a fresh start made each year. They harrow first and sow after, the rain and the wind being sufficient to cover the seed. Ten to twenty pounds of seeds are allowed to the acre. He says the animals acquire a taste for it, and, after being used to it, like it very much. It is claimed that millions of acres of similar land on the continent of Australia can be reclaimed in the same manner by the yellow sweet clover. What is peculiarly interesting about all this is that both the soil and climate of King Island correspond almost exactly to Florida, and, furthermore, that cattle-raising is the prominent industry as it is also in Florida.

If the experience of the Australians can be duplicated in Florida we may yet live to see the "Land of Flowers" become the leading bee State of the Union. One thing in favor of this view is that yellow sweet clover grows admirably in Bermuda—a milder climate than that of Florida.

W. K. M.





## RUSTS AND SMUTS.

As bee-keepers we are all very much interested in these fungi. They furnish proteid food for our bees which answers as well as pollen, and they are of great economic importance to the world, as they are terrible parasites, and sweep off the higher plants with the very besom of destruction. In their polymorphic stages they are full of interest.

## WHEAT RUST.

The wheat rust, *Puccinia graminis*, is one of the best known, and well illustrates the character of the group. As stated, these rusts are fatal parasites to higher plants as wheat and asparagus. They work their harm by sending microscopic threads of growth, called "mycelia," through the tissues of the host, and these in their growth absorb the substance of the victimized plant, and kill it.

Who has not seen the red color on leaf and stalk of the wheat in the summer? This red powder, which used to color the shirtsleeves of the binders with red, is simply spores which develop at the ends of the mycelial threads which push to the surface. This was first thought to be a separate plant, and was called a name which now gives name to these spores. They are called uredo spores, or summer spores, and this stage the uredo or summer stage. These spores are light, and are borne by the wind or other means to other older wheat-stalks, and these send mycelial threads down into the dead stem and come to the surface as before, and produce black spores, which have thicker walls, and can endure the winter's cold. For the same reason as before, these are called teleuto spores, or autumn spores, and this stage takes the same name. It is likely that the kind of spore is determined by the condition of the stalk. An old dead stalk produces a black thick-walled spore, and this carries the plant over the winter, which no other spores can do.

These black spores are double-celled, and in the spring each cell sends out a stem which has several cells, and each cell sends out a second stem which bears spores at the end. These are small and light, and are easily carried by the wind great distances. These may be too early for the wheat; but if they fall on the wheat I think they produce the summer or uredo stage. They usually or often fall on the barberry, and produce mycelia as before. So the barberry falls before this same rust. On the surface of the under side of the barberry leaves little cups appear, and these are known as cluster-cups.

In these, chains of spores are produced, which for the same reason as before are known

as accidio spores. These blow on to the wheat, as it is now summer, and the wheat-plants, even of spring-sown grain, are well advanced. These produce the uredo stage and the round of life is complete.

## BEES USE THE SPORES.

The bees use all of these spores in lieu of pollen. Thus we may see the red or black or greenish colored bunches on their legs as they come to the hives. We have noticed above that all stages are parasites, except the growths in the early spring from the black teleuto spores. The light spores from these are easily carried by the wind as well as by the bees.

## ASPARAGUS RUST.

This rust is a native of Europe, and was first noticed in our country in 1896. It passes through all the stages that we have studied in the wheat rust, so is polymorphic, but works on only the one plant so far as we know. From its host, which it quickly victimizes, it is called *Puccinia asparagi*. In the summer the asparagus is red, later black, and in the spring the cluster-cups are seen, and the chain of spores. Thus our bees may get proteid food from the asparagus in four or five forms: Real pollen, or the different-colored spores of this asparagus rust, each of which probably serves its needs equally well.

This asparagus rust spreads with amazing rapidity. As just stated, it appeared in the East in 1896, and was extremely fatal to the asparagus-plants, especially on light land, where the plants were generally grown. It reached California in 1900, and now vexes the asparagus-growers all through the rich asparagus regions of the State. It is interesting to study the way of its transit. It came to California via Texas and Arizona, and so landed in Southern California. From here it went north, and in a year was at the great island region of the San Joaquin and Sacramento, where there are thousands of acres of this excellent succulent.

It only remains to be said that there are three ways that are found successful to battle with this foe. It is found that dew is absolutely necessary to germinate the spores. Under trees, then, there will be found no rust. In the spring the plants are kept cut, and so germination of the early cluster-cup stage is impossible, so that, if all volunteer plants and strays are kept down, then there will be entire exemption from attack. Sulphur dusted on the plants will kill all the spores, and there will be no germination. This is thrown on when the dew is on the plants. In very dry regions, like the Coachella and Imperial Valleys, of California, where there are no dews, there can be no rust. Thus in these regions we may expect great groves of this very profitable plant (asparagus), which, with the alfalfa, will make it a great bee-region.

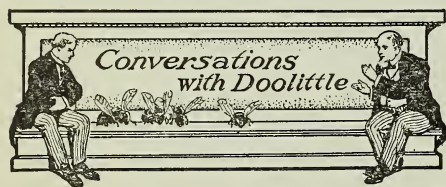
## THE WEST COAST FOR BEES.

I am getting such frequent inquiries from all over the United States regarding the Pacific Coast region, and its rank as a bee



country, and also what part is best, that I am sure a word on this subject will be appreciated by the readers of GLEANINGS.

Bees can do well only where there are many and vigorous honey-plants. Plants thrive at their best only where there is generous heat and abundant sunshine. California challenges the world to show more genial warmth and more delightful sunshiny days than does she. This is the reason that she pushes the white plague to the wall, and is also the reason that she stands unparalleled in all our country in the beauty, vigor, and perfection of her vegetable growth. Given water, and there is scarcely any limit to the luxuriant vegetation which is one of the glories of this great State. It goes without saying, then, that California is a (if not *the*) banner bee State. Were there not two unfortunate drawbacks, the honey-production here would be enormous. We sometimes have too scant rainfall, and rarely it is too damp and cold in the late spring and early summer for the bees to do well. We can in a measure overcome the former; the latter is too rare to awaken serious alarm. The best regions are Southern California, and such great valleys as the San Joaquin and Coachella and Imperial, where the irrigation and great fields of alfalfa make abundant forage almost certain. Here, too, the cold and damp are not much in evidence. These regions, like Nevada, Arizona, and Colorado, are ever to be famous for their honey-product. Northern California and further north have the rains, but not the genial warmth and sunshine in such marked abundance



#### GREAT VARIATION IN YIELD OF HONEY.

"Say, Doolittle, I am in a quandary."

"What perplexes you now, Mr. Smith?"

"What do you guess my average yield of honey was this year from each old colony in the spring?"

"Possibly 50 pounds of section honey."

"More than that. It was 81."

"Whew! That was better than I did, and a very great yield, considering the poorness of the season. You ought not to be in a quandary over such a yield as that. My average yield was about 72 pounds."

"It was not the aggregate amount which perplexes me, but the great variation in the yields the different colonies gave me. I kept a record of each colony. Some colonies gave me as much as 150 pounds, while others gave a yield of only 25, 27, and 30 pounds each. This is where the quandary

part comes in, and I came over to see if you could not tell me how, in some way, I could bring all colonies up to those which gave me the highest yields."

"Did you allow the bees to care for themselves?"

"No. I tried to equalize them to a certain extent, even changing some hives, setting the weaker colonies in place of strong ones when the young bees were out for a playspell about two o'clock in the afternoon, but it seemed to do very little good."

"Where did you get the idea of equalizing in that way?"

"An old bee-keeper told me that was the best way. Don't you use that plan?"

"I tried it some years ago, but it did not work to my satisfaction any more than it seems to have worked with you."

"I tried another way, which I thought did a little better; but even that did not bring the colonies on which I tried it up to what the average for the whole apiary was."

"What was this other way?"

"I tried giving brood from the strongest to the weakest."

"At what time of the year did you do this?"

"About the middle of May."

"Did the weak colonies care for all of the brood, or did some of it fail to emerge from the cells?"

"That which I gave first developed perfectly, for we had a few hot days just after it was given; but with some I gave a little later on, much of it was lost; for it became cold the day after I gave it, and the little colonies could not cover it all; and what they could not cover perished for want of heat and care. Did you ever lose any in that way?"

"Yes, till I learned better than to give a very weak colony a lot of brood from a strong colony."

"How would you do it?"

"I am not saying that this is the best way to treat colonies; but where brood is given for the purpose of equalization it should be taken from the stronger and given to those of medium strength."

"But that would not help the very weak ones at all."

"Not at this time, but it has a bearing later on. Suppose we have only three colonies, one of them having brood in two combs, one having brood in five combs, and the other with brood in eight combs, all the colonies being in ten-frame Langstroth hives, and that the time of year is May 15th. The first would be called a very weak colony; the second a medium colony, and the third a very strong colony. Now, if we give brood from the strong to the very weak thus early in the season there are so few bees in the weak colony, and the average weather so cool, that, in all probability, much of the brood would be lost; but if we take two frames of brood from the strong colony and give it to the medium colony, taking only such frames as we see many young bees emerging from, we shall have benefited both

by keeping the strong one back a little, and booming the medium.

"Now, by giving this medium colony brood from the stronger, no brood is lost, as this medium colony can stretch out enough to hold this brood, no matter how cold the weather may turn; and in the mean time the little colony is gaining somewhat, and, what is still more to our use, with each day the prospect of warmer weather is becoming more assured. When the first of June has arrived we have two colonies with hives well filled with bees and brood, while our weak colony has brood in three or four combs, probably to the amount of two full combs. At this time, a little earlier or later, in accord with the season or the section of country we are in, we take two frames of emerging brood from each of the now strong colonies and take them to the weak colony, where they are put in place of the brood the weak colony had, the larger part of which is brood in a very young state. Of course, the bees and queen are all brushed off their own brood and allowed to go back into their own hive on the brood from the strong colonies which we have just given them, and the frames from the weak colony put in the strong colonies in place of those taken from them. In a few days this weak colony will have become a medium colony, when four, five, or six more frames of brood can be taken from the two stronger colonies and given to the now medium colony, and the combs from this colony placed in the two strong colonies. In this way all three colonies are brought up to full strength at just the time when the extracted clover harvest arrives, without the loss of a single cell of brood, and, what is of much importance, all are on equal footing, and, barring accidents, each will give very nearly the same results in section honey."

"Well, now, you have done it, sure. I could not see how it was to be brought about when you started out. But you said something to the effect that this might not be the best way to treat colonies. Have you something better?"

"Years ago I used to have the same trouble you told of when you came. Some of my colonies would give only small yields, and others 100, 200, and 300 pounds, and I went to work to find out the reason why this was so. I soon found that much depended on the queen, which we have not taken into account at all so far."

"That is true. We simply supposed the queens were equal."

"I know we did; but we are to *know* that they are equal, and know this at least eight weeks before the harvest opens."

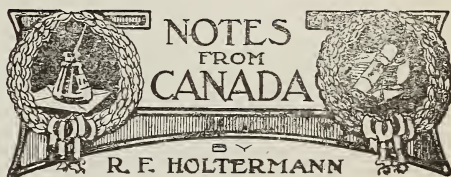
"Why that length?"

"Because it takes about that time to have our colonies become entirely ready for the harvest. If the weather could be perfect for six weeks before the harvest, this amount of time would do; but as we have much bad weather mixed in, the eight weeks is about right. Just use *farm* sense when working with the bees. It has been a rare thing with

me during the past twenty years to have one colony give 25 pounds more than another colony. I used to ask over and over again, 'Why does one colony give me a yield of 150 pounds while another will not give over 10?' But I have no cause for such asking now. Make all colonies alike as to queens, etc., eight weeks before the harvest begins, and you will find yourself wondering why you ever allowed any other mode of procedure to exist in your manipulation of the apiary."

"Yes; but you hinted you had a better way."

"That better way has been published in *GLEANINGS* as a serial, which you can read at your leisure. But it is soon to appear in book form, together with some additions I have seen fit to make."



I never found it more difficult to keep up with my correspondence. Many who have written to me upon various subjects will have to exercise a little patience until bees are in winter quarters.

So the *Canadian Bee Journal* has changed hands for the second time this year. The Hurley Printing Co., Brantford, Ont., has purchased the *Journal*. Mr. Hurley is a successful printer, and has engaged in bee-keeping as a hobby for a number of years. His first stock of bees was purchased from the writer. May the new venture prove a success.

R. A. Burnett & Co. state in *GLEANINGS*, "if bee-keepers will let their honey ripen before taking it off the hives it will do more than any law passed in furthering its consumption." This is a much-needed shot. Paste this in your honey extractor, on your smoker, or the cover of each hive; and if you can not act on it, then work it out on a design of comb-building in each frame.

#### ONTARIO BEE-KEEPERS' CONVENTION.

The Ontario Convention will be held in Toronto at the York County council chambers, 57 Adelaide St., East. The convention begins at 1 P.M., Nov. 13, and closes at noon Nov. 15. An excellent program has been prepared. The Palmer House, King St., West, is the only hotel which so far has reduced its rates to convention members. It is a \$2.00 to \$2.50 house, and will make its rates to bee-keepers during the convention \$1.50. Come and help us.



## PURE FOOD.

In our country it appears to be legal to label goods "Pure maple-syrup compound," also "Pure strawberry jam" mixture. The law should not allow this. Again, hotels should not be allowed to place on their bill of fare adulterated syrups, etc., without putting upon the same, "adulterated." Bee-keepers and every honest person can lose nothing by helping on the crusade against adulterated foods. Adulteration has been far less prevalent in Canada than the United States. Let us not be content now until Canada has as stringent pure-food laws as the United States.

## REQUEENING.

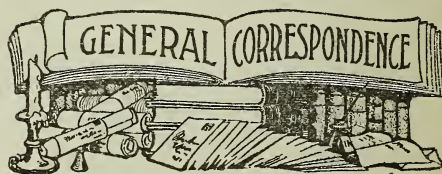
I agree in practice, at least to a very great extent, with a recent article in the *Review* by R. L. Taylor in which he opposes "artificial superseding or requeening." He says, in brief, that to treat an apiary so is a very great expense, which, in the majority of cases, gives as many poor queens after the operation as there were before. Let us try to have the best strain of bees to begin with, then let us watch for failing queens, changing them, and leaving the rest to nature. That is my practice to a very great extent, and yet I have often thought I might do better. I should like to feel sure that the best method is practiced by me. Having a fall flow, I believe, tends to the superseding of many failing queens. Such a flow is, I believe, an advantage, and helps to work out the method I practice but do not altogether feel like preaching.

## MR. AND MRS. J. W. SPARLING.

The judge in honey at the National Exposition, Toronto, Canada, was Mr. J. W. Sparling, Bowmanville, Ontario, whose picture, with that of his wife, appears on the next page. Mr. Sparling, with the assistance of Mrs. S., has exhibited quite frequently at Toronto. Their exhibit has, in my humble estimation, displayed as much or more artistic taste than any put up at Toronto, and the writer has not been backward in taking lessons from them in this line of work. This is particularly true in the blending of colors. How many honey exhibits we see in which the beauty is marred by the improper blend in colors! It has been my pleasure to visit Mr. and Mrs. Sparling at their home, where the same taste is displayed. Mr. Sparling has been president of the Ontario Bee-keepers' Association; and while, no doubt, liable to err, as we all are, he has shown himself fearless in carrying out what he has thought to be right, regardless of friend or foe; and in his official capacity he has helped to lay the foundation to the progressive spirit with which the O. B. K. A. is imbued. Scripture asks, "What shall it profit a man if he gain the whole world and lose his own soul?" Mr. and Mrs. Sparling and many of us know it shall profit nothing, and their trust is in Christ their Redeemer.

## THE NATIONAL.

Arthur C. Miller and W. Z. Hutchinson are having a heart-to-heart talk about the National, in the September *Review*. I believe Mr. Miller is largely unjust in his criticism; but let us be open to suggestions. I am inclined to think that the majority of bee-keepers do not look for help from the National to buy or sell honey and bees, and yet there may be those who like such help. Mr. France always sends such information out with crop reports and the like, so that the added cost is, after all, not so great. Is it not as well, after all, for those who believe that the National can do better work to stay with it and help in its councils and guidance? I find such a policy far more effectual, where conscience is not affected, than to step out. Stay by it; look upon every defeat as only a temporary reverse, and go on cheerfully until victory crowns the effort. Such are the men dreaded by the opposition, and such are the men who accomplish reforms. It has been well said that there are but few men who do not tire of battle if victory is not soon attained; and the opponents of reform and government action (or, rather, inaction) often build upon this trait in human nature.



## BROOD-REARING IN THE SPRING.

How to Build up the Colonies Rapidly; Extracting Sealed Honey in May from the Brood-nest to Make Room for Brood-rearing; Brood-combs of Honey not Desirable for Spring Feeding.

BY E. W. ALEXANDER.

[The following article by our correspondent will, we feel sure, be read with unusual interest. Mr. Alexander is sometimes startling in his suggestions, and especially so in this case. When he advocates extracting all the honey in the spring, and then feeding it back, he departs from the generally accepted practice. Mr. Doolittle and others have argued that a lot of combs of stores in reserve to give to the bees in the spring to stimulate brood-rearing make the best kind of spring capital. While Mr. Alexander does not deny that such combs may be used to advantage, he goes a good deal further and advocates taking away the honey and then feeding such honey back in a diluted form; or if sugar syrup be cheaper, give that instead, thus saving the margin of profit between the cost of the two. He gives some good arguments in favor of this procedure, and we feel sure that all the veterans as well as beginners will be glad to read it carefully. In the mean time, if there are others who have practiced the same plan, and made a success or failure, we should be glad to hear from them.—ED.]

According to our experience along this line I very decidedly differ with some honey-producers, and say, "Yes, it is not only advisable, but it is of as much importance as any other one thing connected with late



spring management." In preparing our bees for the summer harvest there are two things which should never be overlooked:

1. Every hive should contain a sufficient amount of good worker comb for a large well-shaped brood-nest; 2. A good prolific queen.

We think it pays us to kill many queens during the summer, without any regard to their age, simply if they are not as prolific as they should be, or if their bees are not as good honey-gatherers as they might be, or if they are inclined to be cross and vicious when working among them. It is not advisable to keep bees that have any serious faults.

Let us consider the brood-nest as one of the principal things connected with securing a good surplus. Until the last few years we took the advice of some writers on this subject, and saved a large number of heavy combs to give our bees during the spring, to increase early breeding; but with very few exceptions these heavy

combs inserted near the brood about May 1 did far more harm than good. If we uncapped them it was sure to start a bad case of robbing; if they were left capped, then they simply formed a division-board which prevented the queen from spreading her brood across the hive, and, consequently, we had a small brood-nest which gave us a small colony during the entire summer.

After realizing the folly of this erroneous method of spring feeding we commenced to extract all capped honey from the brood-nest about May 1, and in its place, when necessary, we fed a little warm thin honey or sugar syrup daily for about a month. This soon gave us strong full colonies; and the best of it was, we soon had our hives packed with brood from side to side, and top to bottom. In this way of preparing our bees for summer we can secure three or four thousand pounds of old honey before fruit-bloom, and leave our colonies in 100 per cent better condition than they would have been had this old honey been left in their combs.

When Dr. Lyon was here a year ago he was so surprised at the strength of the colonies that he took the photo of hives seen on

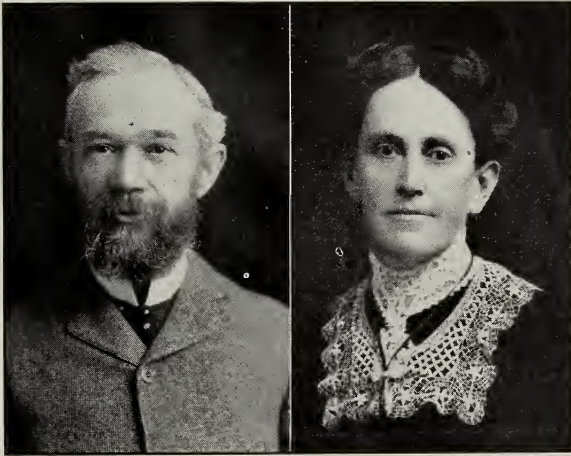
the next page to show their working force. This was taken about 9 A.M. on a cool cloudy morning before the bees had commenced to work in the fields; and while he was taking this photo I counted 237 colonies in the apiary that had the fronts of their hives completely covered with bees that had been on the outside of their hives night and day for many days, except when the flowers were secreting nectar; then it sometimes seemed as if twenty or more swarms were in air over the apiary all day.

Some may say that we should have put two or more hives of extracting-combs on each strong colony in order to have secured more honey. To those I wish to say that I never saw a colony so strong that it was necessary to have more than one set of extracting-combs on at a time. I have been all over this ground for 30 years; and in order to secure the best results, all things considered, I don't care to have more than one set of extracting-combs on a hive at any one

time during the season. Now, do you think for a moment that such strong colonies as shown in the photo, and hundreds of others equally strong in the same apiary, could ever be obtained from hives that had their brood-nest partly filled with old capped honey, especially when there had been heavy combs inserted near the center of the hive, such combs forming a complete division-board

through the brood-nest or a little to one side? When we visit our friends' apiaries and find only an occasional colony working in their supers, if we should take a smoker and open these hives that are doing little or nothing, nine times out of ten we should find that their brood-nest was so surrounded with capped honey that the queen could hardly find room enough to rear the necessary brood for a good-sized nucleus.

About the first of August a bee-keeping acquaintance called to see me in regard to his not securing any surplus this summer. He was a man of considerable experience with bees, and had fairly good Italians. He was using 10-frame Langstroth hives, and had in the spring about 100 colonies that had wintered well, and was heavy in honey when taken from the cellar. After I questioned



MR. AND MRS. J. W. SPARLING.

Mr. Sparling was the judge of honey at the National Exposition in Toronto, Canada, and, with the assistance of Mrs. Sparling, has put up many very artistic exhibits. See Notes from Canada.





SOME OF ALEXANDER'S STRONG COLONIES.

At the time this picture was taken, even in May, there were 237 colonies in the apiary, so strong that not all the bees could get into the hives at one time, even at night.

him some he told me that he had about 150 heavy combs that he had saved from last season to give to his bees in the spring to stimulate early breeding as some recommended. These he distributed among his hives, so as he thought he would surely have strong colonies ready for the first flow of nectar. But here he was disappointed. His bees would not work in the supers, neither for comb nor extracted honey. He went so far as to unite several colonies, putting the bees of from two to five colonies all in one hive in order to get up a working force. I asked if those hives were not crowded with honey which caused them to be weak in worker bees. He said he had not thought of that, but they certainly were very heavy. I asked him about how much brood they had. "Oh! not much," he said. Some had five and six combs partly filled, and some had only four combs containing any; but every thing was full of honey, and he could not understand why the bees did not uncup that honey and carry it above.

Now, my friends, is it any wonder that he did not secure a good surplus, and that he thought it the poorest season he had ever known? I can not understand why a man of experience should have allowed his bees to get in such a condition. If, about the first of May, he had extracted those heavy combs he foolishly put into his hives, and also extracted the capped honey that was already in the hives, he would have had much honey

to his credit, and his hives full of maturing brood which would have given him a fine surplus of early honey. I honestly think a moderate use of the extractor through the latter part of May and fore part of June, especially when running an apiary for comb honey, would be the means of many beekeepers securing twice as much surplus as they usually do. Here at the North May is the month of all the year when our bees require the closest attention. It is then that we should care for them so that every inch of comb in the hive is utilized for brood-rearing that can possibly be used for that purpose. Bring your extractor into use, cleaning your hives of nearly all capped honey, and see to it that every queen in the apiary is doing her very best to crowd the combs with brood; then you will soon have those strong colonies that will give you a fine surplus, and at the end of the season you will hardly believe it when told that the summer has been a poor one for the production of honey. Spring feeding has never received the attention that such an important subject should. We have been taught that honey is the proper food for winter use, and that, if a colony were short of it in the spring, just give them a heavy comb, and that was all that was necessary to do through the whole spring season. But experience has taught many of us that honey is not the best winter food, and that to give our bees heavy combs of old capped honey in the spring is one of



the poorest ways imaginable to stimulate early breeding.

In conclusion I repeat that a moderate use of the honey-extractor during early summer is very beneficial in preparing bees for the summer harvest.

### EXHIBITING AT FAIRS.

**Honey and Bee Display at the New Castle Co. Grange Fair, in Wilmington, Del., Sept. 2-6.**

BY REV. JOEL S. GILFILLAN, D. D.

The bee-exhibit created a great deal of interest at the fair, and was said to be by many the most interesting of all the departments. Every thing in the department came from my own apiary.

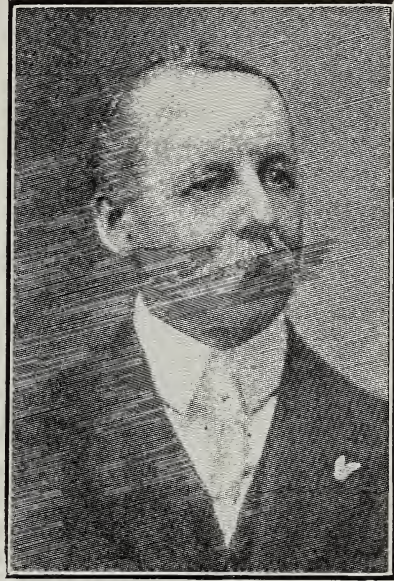
The honey display occupied a frontage of 20 feet. The middle pyramid was comb honey, and the side pyramid extracted honey.

The bee-display consisted of a series of five glass hives showing different conditions of the colony at different times. Upon each hive was displayed a card stating what that hive represented. These are shown by the various engravings herewith presented.

Besides the five glass hives, the writer had a full colony of bees in a hive in a wire cage six feet square, just outside the tent where daily demonstrations were given in handling bees. Here every operation of the apiary was shown, and the observers were invited to ask for any manipulation that they desired to see, and it would be shown to them. This was a practical demonstration of the ordinary work in an apiary. He also gave several illustrations of the application of bee-stings for the cure of rheumatism.

Newark, Del.

[As we have said heretofore we say again, the giving of a bee-demonstration and the



REV. JOEL S. GILFILLAN, NEWARK, DEL.

making of a honey-exhibit at county fairs is a splendid way to advertise the honey business. It takes only a few days of time and preparation, and the results are well worth the time. Besides the amount of honey actually sold at the fair, it will mean a large sale of honey for the future, and at good prices, without paying freight, cartage, drayage, commission, and sometimes the actual loss of a whole shipment through the rascality of the consignee miles away.

There is no question but that the local consumption of honey can be increased enormously, thus enabling a bee-keeper to double on his money; for if he is a good demonstrator, a good

talker at fairs, and square in his deal, he can sell a large part of his crop right at the yard. This is no theory, for many a producer is doing that very thing. Of course, it will be understood that one who owns from 300 to 500 colonies could not dispose of the entire product locally; but even he

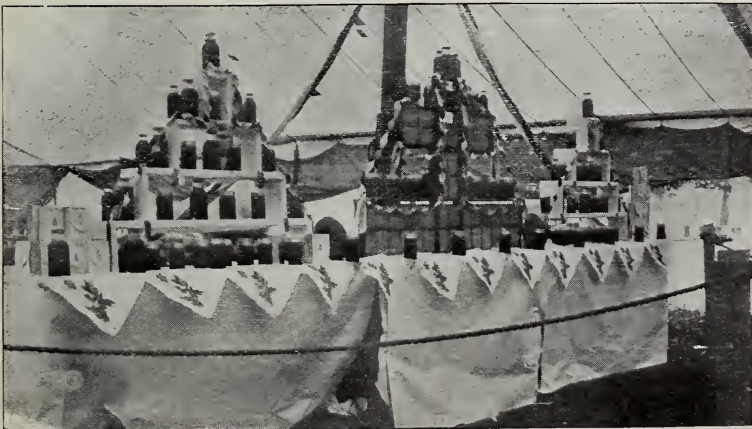


FIG. 1.—HONEY DISPLAY AT THE NEW CASTLE COUNTY FAIR, WILMINGTON, DEL.





FIG. 2.

can make demonstrations at every county fair within fifteen or twenty miles, or, we will say, within a radius of a day's drive, and thus dispose of all his crop off the wagon.

It is one of the anomalies, and all wrong from an economic point of view, that many a producer will ship his honey to the city, leaving the local retailers to send to that same city for honey. The bee-keeper has to pay the commission man, freight, drayage, leakage, and commission, and the local dealer probably pays an additional profit. Why in the name of common sense should not the home producer save all this salvage?—Ed.]

### SHALLOW EXTRACTING-SUPERS.

**Bees from Even Weak Colonies Enter them Readily; What may be Done with them.**

BY H. A. SMITH.

While the different advocates of hives of various depths are airing their opinions I should like to say something about the shallow extracting-super. Generally this super has been recommended to use as a "coaxer" for bees to enter sections. It is certainly an excellent thing to use for this purpose; but I do not produce much comb honey, and I use the shallow extracting-super in producing nearly my whole crop of extracted honey.

When I first thought of using the shallow super I balked at the idea of having two sizes of frames in my apiary, and my desire to have hives and supers interchangeable was also an argument against their use. I made a few, however, and placed them with starters upon some of my weakest colonies. That was a poor season, but I tell you it was a surprise to me when I examined those supers in a few days. The frames were solid full of honey, and capped in a way that would com-

pete closely with fancy sections. I remember one of those weak colonies with shallow supers gave me nearly as much honey that season as the best colony I had which was supplied with deep combs. That and later experience have converted me to the use of the shallow super.

It is a fact that a comparatively weak colony will enter a shallow super as quickly, and often more so, than a strong colony will enter a deep super, and will often come out with an equal amount of surplus. If a deep super be given such a weak colony they will very often refuse to occupy it at all. Very often when they do occupy them it will be upon a few combs on one side of the super, which will be badly bulged and almost never fully capped. As I said above, such colonies invariably give excellent results in shallow supers.

The addition of a shallow super is a gradual enlargement, and does not materially affect the heat of the colony. It is, therefore, occupied much more quickly, and much valuable time is saved over giving the colony a deep super.

If a colony is very strong at fruit-bloom I add a shallow super of combs or foundation, allowing the queen access to it. This often catches a surplus of fruit-bloom honey, and the additional brood room helps to check swarming. When the main flow is at hand three different things may be done with this super:

1. It may remain where it is, and another super placed over it with an excluder between.
2. The queen may be put below, and a super of combs or foundation put between this



FIG. 3.





FIG. 4.



FIG. 5.

Fig. 4 shows a colony of bees at work. The queen was removed, and the process of rearing a new queen displayed. Queen-cells were visible.

super and the hive. An excluder is placed between the two supers and the hive.

3. Two supers containing some brood may be taken from two hives and put together on a new stand, a queen-cell or laying queen be given, and in a short time this will be a strong colony.

If such a colony in two supers is wintered, and it is desirable to get the colony into a regular hive in the spring, I proceed as follows: At the opening of the flow the colony is set to one side, and a deep hive containing one frame of brood, and the remainder of foundation, put in its place. The bees and queen are brushed into the deep hive, an excluder put on, and the two shallow supers (old brood-nest) put on top. This usually prevents swarming.

In the above I have tried to point out some of the advantages in using shal-

low supers over weak colonies. I also find I can secure more honey from *strong* colonies by their use. In using them over weak colonies, the addition is not great enough to lower the temperature of the brood-nest appreciably, and so the super is soon warm enough to work in. The addition of a deep super is not only too great to warm quickly, but it lowers the temperature of the brood-

nest; therefore valuable time is lost warming the hive and super. Now, this condition also exists when a deep super is given a *strong* colony; and, although in a much smaller degree, the time taken in bringing the temperature to workable height would otherwise have been spent in drawing out foundation in a shallow super. By adding one shallow super at a time I very often have colonies working in three supers



FIG. 6.



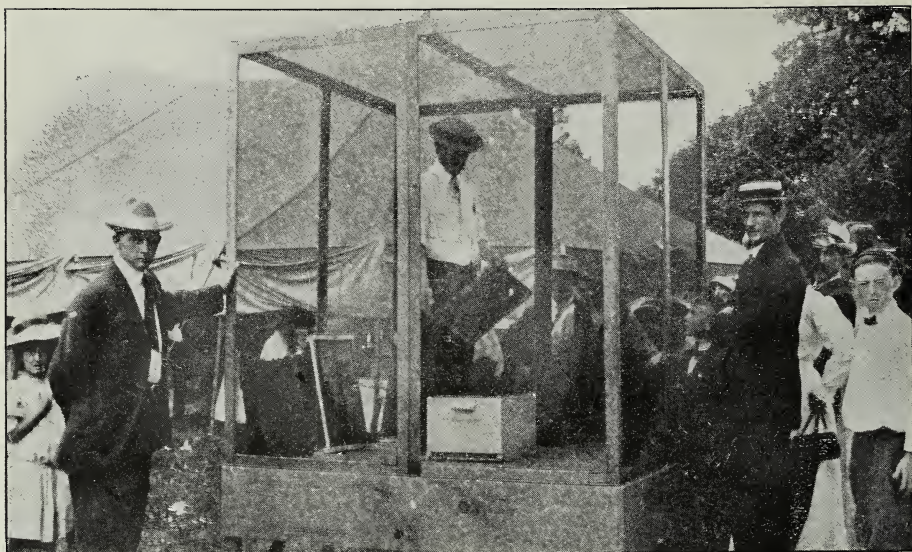


FIG. 7.—THE DEMONSTRATING-CAGE WHERE MANY OF THE ACTUAL METHODS WERE ILLUSTRATED.

while other colonies seem to be doing their best in one deep super. My shallow supers are just half the depth of my deep ones. I will admit there are twice as many frames to handle, but I can uncap two shallow combs as quickly as one deep one. One sweep of the knife on each side does the work.

There is another argument in favor of this super which will grow stronger each year.

Narrow lumber is much cheaper and more plentiful than wide lumber.

Falermo, Ont., Can.

[Much that is here given harmonizes very nicely with the teachings of Mr. J. E. Hand as recently given in these columns. The only wonder is that our correspondent does not adopt the shallow extracting-super for a brood-chamber also. This will simplify his



FIG. 8.—MR. GILFILLAN TREATING MR. ROBINSON, OF WILMINGTON, FOR RHEUMATISM; PLACING THE BEES ON HIS KNEE.



hives and yet make them capable of a greater degree of gradual expansion and contraction. Very possibly Mr. Smith is working toward that end. In any event we shall be glad to hear from him further. If the general adoption of shallow brood-chambers or extracting-supers, and the elimination of full-depth brood-chambers, is not practicable we shall be glad to have him give us his reasons therefor. If, on the other hand, he is working toward the divisible-brood-chamber scheme, will he kindly give us his reasons for so doing?

In this connection it may be interesting to note that the late Dr. A. B. Mason, both secretary and president of the National Beekeepers' Association for several terms, was an advocate and user of shallow extracting-supers, for he was a producer of extracted honey. When asked why he did not use the full-depth chamber he advanced one of the very reasons given by our correspondent; namely, that the giving of full-depth supers

been leaders in the advocacy of shallow extracting-frames.—Ed.]

## FALL HONEY-FLOWS.

### 600 Acres of Cucumbers Near Marengo.

BY DR. C. C. MILLER.

Years ago I made no count on a fall flow. When white clover failed in any year, that was the end of it, and I could count on feeding sugar to fill up the hives for winter. Gradually there has been a change, and for some years the bees have been able to gather enough from the fall flow to fill up for winter, and perhaps a little more. The year 1906 was one of those years when white clover took it into its head it wouldn't furnish a supply of nectar for the bees, but the fall flow filled the brood-chambers and provided a nice lot of sealed combs for spring use.

I don't know what has made the difference

—at least I can't be sure about it; but I know of two honey-yielders that have been increasing in acreage. One is sweet clover—possibly you may remember that I have occasionally spoken of sweet clover—and the other is the cucumber. The relentless war against sweet clover has kept it down pretty



PICKING CUCUMBER "PICKLES" NEAR MARENGO, ILL.

made too great an expansion of the hive capacity, giving the bees more room than they could occupy and warm up to advantage. He told the writer that, in poor seasons, he would get extracted honey with these shallow supers of half depth when his neighbors with a full depth would secure no honey; moreover, that he could uncup these shallow combs so easily and quickly that there was very little loss of time over the method of handling and uncapping a full-depth comb. While Dr. Mason was never an extensive bee-keeper, yet he was a close observer, and ever on the alert for short cuts.

This is a very interesting and profitable subject for discussion, and we shall be glad to hear from others of our subscribers who have made comparative tests between the shallow and full-depth supers. In the mean time we should not forget to mention that the Dadants, while users of the Quinby frames for the brood-nest, have for years

well on the roadside, and as yet farmers do not generally encourage it in the fields; but the presence of the cucumber has been courted. For several years I have been in the habit of making people open their eyes by saying that 200 acres of land about Marengo were annually occupied by cucumbers. This morning I thought I would get some accurate data before writing this article, so I called up on the telephone Mr. W. C. Woodward, the head of the larger of the two pickle-factories located at Marengo, which was established 28 years ago, and I'll repeat what he told me.

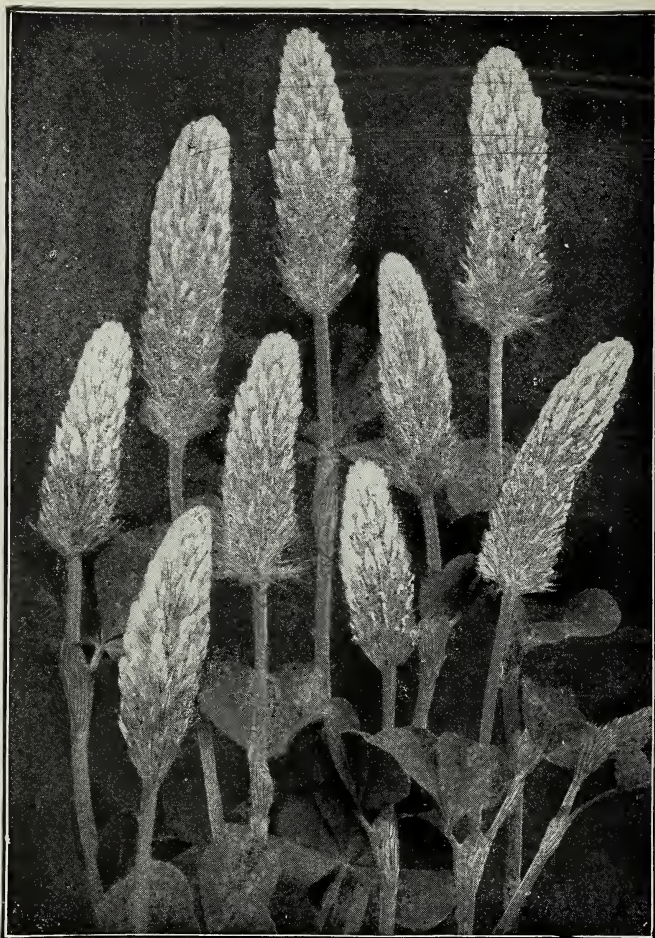
The acreage occupied with cucumbers reaches 600 acres in some years, falling a little below in others. The pickle-patches, as they are called, vary in size from half an acre to three or four acres, some of them being as far as six miles away, and they furnish to the factories in the best years about 100,000 bushels of cucumbers, the annual average



yield being about 75,000 bushels. These large figures seem almost incredible; but Mr. Woodard is a Christian gentleman whom I have known from a little boy and I have confidence in his word. Think of the amount of sourness Marengo furnishes to the country, some of it going across the ocean. What interests me more is the amount of sweetness furnished for the bees. Of course, my bees don't go in all directions six miles, but they cover quite a bit of it. It is well known that there are two kinds of blossoms on cucumbers at some distance apart, and without the bees to carry the pollen from the "false" to the "true" blossoms there would be little growth of fruit. So I might make out a bill against the factories for furnishing the hands to fertilize the flowers. But they might charge me for nectar furnished, so we'll call it a stand-off.

When it comes time to pick the pickles—the word "cucumber" is hardly ever used here; there are fields of "pickles," not "cucumbers"—it means a busy time of back-breaking work, and it is the common thing to see the whole family in the patch. The illustration shows one of the smaller patches, with a correspondingly smaller force of pickers. Mr. Freebrandt and his wife are at work, with a young woman helper. The baby is in the baby-carriage; the little girl stands by the improvised tent, while her younger brother, whom I had coaxed out from under cover, shyly dodged back as I snapped the kodak. Very likely the little girl is in charge of the two younger, else she might be at work too. At any rate, I've seen as young children picking. Ten or more pickers are often seen at work, and at forty or fifty cents a bushel for pickles below a certain size, and 20 cents for the larger ones, the crop would not be as paying as it is if the whole family, children and all, could not take part in it. Yet even adults can make wages at it.

Now I suppose you will expect me to tell you just what cucumber honey is like. I don't know. The honey we get in the fall varies in color, density, and flavor. Some



THE NEW WHITE ITALIAN CLOVER.—SEE NEXT PAGE.

of it has amber color and a rank fall taste that I dislike, although others like it. Some of it is light, almost, as clover, with just enough of the fall taste to be rather pleasant. But I don't know what part of all this is to be attributed to the pickles. I wish I did. During pickle season the cappings are likely to be yellowish and a bit varnishy-looking. I've been in the habit of laying this to the pickles. Perhaps I accuse them wrongfully. Marengo, Ill.

[The writer remembers that there was a large amount of sweet clover in the vicinity of Marengo. Indeed, the doctor had taken pains to cultivate its acquaintance on his farm, allowing it to grow *ad libitum*. But for all this we are inclined to believe the bulk of his fall honey comes from cucumber. We should like to inquire if there is not a time when the sweet clover is practically out of bloom, and the cucumber blossoms in the height of their nectar secretion. By taking



away all the honey from a strong colony, and putting it practically on the starvation basis, the doctor might be able to get enough of cucumber honey to determine its quality. We hope he will experiment another year.—Ed.]

## THE NEW WHITE ITALIAN CLOVER.

BY W. K. MORRISON.

The well-known and reliable seed firm of T. W. Woods & Sons, of Richmond, Va., has recently put on the American market a new kind of clover which may have an important bearing on the bee business in some sections of this country. It is a white-flowered variety of the well-known crimson clover.

The new clover, they claim, is a considerable improvement on the crimson by reason of its larger growth and later season. It is so much later that it can be planted with winter oats, and the two mature together. This, of course, yields a heavy crop of valuable hay early in the year. They say it is even better than the crimson for early grazing, as it is naturally heavier and denser in growth.

If these claims can be substantiated it is evident that bee-keepers will have a new source from which to get a honey crop. We have come to the conclusion of late that it pays either to give away alsike seed or sell it at a low price. It is just possible that the white Italian clover is equally good. We do not know but it is worthy of a fair trial. We shall be glad to get reports.

## THE PLURAL-QUEEN SYSTEM.

No Trouble to Introduce a Number of Queens to Bees, but Difficult to Introduce them to Each Other.

BY J. E. HAND.

I have read with a great deal of interest Mr. Alexander's article on page 1136, in which he tells how he is able to introduce successfully several queens to a colony of bees. This is a matter over which I have spent no little time and thought, since I have for several years practiced the two-queen system of building up colonies for the early honey-flow; however, such queens are always separated by queen-excluding metal, the bees having access to both queens through the zinc honey-board which separates the two shallow brood-sections. It is a fact well known that bees will accept almost any number of queens or queen-cells; and, while I have experienced no difficulty in introducing a plurality of queens to a colony of bees, so far as the bees are concerned, I have as yet not been able to introduce successfully the queens to each other, and invariably one would come up missing in a short time.

Several years ago I became quite enthusiastic over this matter of a plurality of queens all loose in the hive together. However, I

have not been able to make a success of it. I am led to conclude that scent or odor of bees or queens cuts no figure whatever in the introduction of the same. I have had two queens in two sections of my shallow hive, separated by perforated zinc, for six weeks, when, upon removing the zinc honey-board, one of them very soon "came up missing." I recently put two queens in a cage without any bees, and in about one minute one was dead. My queens will fight to a finish. Whether this is due to the strain of bees or to some other cause I am unable to say.

Will Mr. Alexander please tell us how long he is able to keep two or more queens in one colony unseparated? To my mind the only safe way to use a plurality of queens in a colony is by means of shallow brood-sections separated by queen-excluding zinc, thus giving the bees free access to all the queens in the hive. Since two queens will lay eggs as fast as one colony of bees can care for the brood I can not see that any thing is gained by having more queens; however, you can tier up these shallow brood-sections as high as you please and have a queen in each, and there will be bees enough to care for all the brood, and no danger of the queens killing each other.

Birmingham, O.

[The evidence seems to be accumulating, to the effect that it is possible to work the plural-queen system under some conditions at least. A large number have thus far reported on the feasibility of having two mothers in a hive, but separated from each other by a perforated zinc. While there are conditions under which the two may be allowed to come in contact without being separated by the zinc, in the generality of cases it seems to be advisable to use the perforated metal.

As Mr. Hand well says, there is no great difficulty in having a plurality of queens in a colony so far as "the bees are concerned" (*italics ours*); but it is not thus easy "to introduce the queens to each other." But our correspondent further adds that he has been led to "conclude that scent or odor of bees or queens cuts no figure whatever in the introduction of the same." This does not seem to us reasonable. If the scent factor has no part in the matter, then we are at a loss to conclude how the bees under some conditions recognize and attack a strange queen that does not belong in the hive. The sense of smell in the bee is very highly developed; then why should it not be the means by which bees know their own? It is easy to see that the question of odor has little or no bearing on the relation of *one queen to another*. In this case it is not a question of scent, but a jealous rivalry as to which shall enjoy the sole and undivided respect of her subjects.

We feel firmly convinced that the two-queen scheme of getting a large amount of brood, and hence a stronger colony, is bound to come to the front. If it is desirable to have a queen extra prolific (and there is no ques-

tion on that score), then why should it not be equally desirable to have two medium queens that will give as much or more brood? Or let us put the problem another way. It is easier to rear two medium queens to do a piece of work than one extra fine one to do the same work.

Again, if two queens can be made to do service in a hive if one dies the colony is not left in that hopeless or discouraged condition of the one where there has originally been only one queen.

Mr. E. W. Alexander has been working the two-queen system for years with the greatest of success. His powerful colonies, as seen in the photo elsewhere, show that the two-queen method is one of the factors contributing to such strength. But here is something more on the subject.—Ed.]

### THE ALEXANDER PLAN OF BUILDING UP WEAK COLONIES, AND A MODIFICATION OF IT.

#### Two Queens in a Hive as a Means of Preventing Swarming.

BY A. J. WRIGHT.

I have used the Alexander plan of building up weak colonies in the spring for years, with this modification: Instead of perforated zinc I have used wire cloth as follows: Tack the wire cloth on to a rim about two inches deep and the size of the hive. Remove the cover from a strong colony, and on top of the hive place the rim, cloth side down. This rim should have a  $\frac{1}{8}$  hole bored on the side opposite the entrance of the lower hive, and about three inches either way from the side of the upper hive. On top of this rim place the weak colony. This should first be examined to make sure that it has a queen, and also to remove dead bees; and be sure there are no broken or leaky combs. Then put on the cover, and close, with a plug or slide, the  $\frac{1}{8}$  hole. In 48 hours a frame of bees—no queen—may be taken from the lower hive and placed above, next to the bees, separated by only a card of honey. Close down to two, three, or four frames, depending on the number of bees, and fill the space with dummies. In about a week remove the plug or slide, and no further care is necessary except to supply room for brood expansion to the upper colony; but if a colony is very weak it doesn't pay to fuss with it except in case of a valuable queen.

The above plan succeeds where any thing can, and is not subject to the uncertainty of perforated zinc.

#### PLURALITY OF QUEENS IN ONE HIVE.

The subject of two or more laying queens in one hive receives attention on page 473. This much I have noticed, that at least two laying queens of pure Italian blood will get on peaceably together in the same hive, throughout an entire season, and in this condition no swarming will result. To what extent this might be carried I am unable to say.

#### MATING QUEENS CONFINED WITH A THREAD.

The experiment on page 470, with a virgin queen attached to a thread, I tried about seven years ago, but differing in this: I found even a silk thread too heavy, and so used a thread of spider silk obtained from a large chocolate-colored spider, spotted and striped with yellow, which frequents pasture fields in autumn, and spins a strong web for the capture of grasshoppers, large moths, and the like. Several yards of strong silk may be reeled from this spider direct with a wire-reel. About six feet of this thread may then be attached to a virgin queen of any race (not easily frightened), and the queen given a chance to fly. The thread being very light, the queen will easily fly and remain a considerable time in the air. I thought I had made a great discovery when I succeeded in getting a queen mated by this plan; but this is one of the things I laid on the shelf as being of no practical value, as mating can be accomplished only at a time when the queen would make her flight naturally; then, too, queens do not go far afield for mating purposes; and if the apiary is near other yards or the forests you may be quite sure that your yard will have a pretty good sprinkling of drones from these sources. This experiment of fishing for drones with a queen for bait is, however, quite interesting.

Bradford, N. Y.

[We wish our correspondent would tell us more about his two-queens-in-a-hive experiment. Under what conditions did he succeed in doing this? Did he use perforated zinc? What was the relative age of the queens? How many colonies did he try?

The method of building up weak colonies would be reliable in that there would be no likelihood of either queen being destroyed, and to that extent it may be better than the Alexander plan. The captive-queen experiment is also interesting. Yes, we should be glad to hear from Mr. Wright further, for he is an old experienced bee-keeper.—Ed.]

#### FOUL BROOD.

#### The Necessity of Disinfecting the Hives; Crushed Newspapers for Packing Material; Fastening Foundation.

BY G. W. MARTIN.

In the 1905 edition of the A B C of Bee Culture I do not think you give Mr. McEvoy a fair interpretation of his treatment of foul brood. I have kept bees for over 30 years in a small way, and have been annoyed by foul brood often. It is a common visitor here, as there are many old box hives here, and their owners are not bee-men. When one stand dies they just let it stay, and thus spread the disease. (Some people claim that that is what cleaned the bumble-bees out of this country.)

The starvation plan is all right, and so is



the McEvoy. I do not think Mr. McEvoy would say it is not necessary to disinfect hives, for he does disinfect his. In the starvation plan disinfection is accomplished by keeping the bees in prison, and they clean up the hive the same as they do the contents of the honey-sac, which Mr. McEvoy has them clean up and put in the frames of foundation that are afterward melted up. If any one thinks it is not necessary to disinfect hives, just let him take two diseased colonies, use McEvoy's plan, but unite the two. That will leave you an empty hive. Just keep it. Do not disinfect. Put in a swarm, and see if foul brood does not develop on schedule time.

I disinfect old hives in this way: I close the entrance with wire cloth, throw grass or hay over it to shut out light, and put in a cup of bees (cruel), and let them remain until they starve. I never had a return of the disease.

I have a colony of Caucasians, and do not like them. I would as soon hunt laying workers as to hunt their queen; and, besides, they raise too large families for the amount of work they do.

I use crushed newspaper to pack double-walled hives. I push it down with a square or any thing handy. I have never had one loss by freezing; and in winter, outdoors, I have seen it 31° below zero here.

Why doesn't some one make extra thin surplus with  $\frac{1}{8}$ -inch edge of sheet heavy to fasten by?

Saltsburg, Pa., Feb. 18.

[It would be difficult to make foundation with a thick edge, and the expense would probably be prohibitive. One edge might be folded over afterward, perhaps, to give a greater amount of wax; but when foundation fastened with the ordinary hot-plate machine is not rigid enough it had better be secured by melted wax applied to the edge with a spoon or tube. This can be done rapidly and well, and the expense is slight. We have seen no statement from Mr. McEvoy that starving bees will disinfect a hive. We are inclined to think you are mistaken.—Ed.]

### BEE-CELLARS.

#### The Matter of Ventilation Depends upon the Temperature.

BY J. G. BAUMGAERTNER.

Reading Mr. Bingham's article, page 335, of the March 1st issue, on wintering bees in the cellar with entrances closed down to  $\frac{1}{4}$  inch, I said to myself, "Just the thing for a beginner to try who never cellared bees before!" Give him my cellar, where the temperature was up to 50 degrees and more most of the time the past winter, and you will see a man, rather long-faced, *scoop* up bees from the cellar floor, sighing heavily, the next spring. In my cellar, with such a high temperature bees will be as quiet as

death, with cover and bottom removed—nothing but a thin carpet over the top, and will spread out over the combs fairly well. By contracting or expanding the cluster they regulate the temperature about them to suit themselves, and are contented. But when they are put in with sealed covers and bottom-boards, even if the entrance is  $\frac{1}{4}$  by the width of the hive, they are restless, and fly out to die on the floor in large numbers.

However, as you suggested in the footnote, in a cellar with a low temperature Mr. Bingham's plan may give splendid results; and I have no doubt it would have been just the prescription to spare a certain beginner in Clayton Co., Iowa, an awful disappointment. It was 12 years ago. A certain young man working for a bee-keeper had obtained three colonies of bees, and offered them to me (then a boy of 16) for \$7.00 in the fall. I had long been wishing to own some bees, and had saved up just about enough of my "spending money" to purchase those bees after my father's permission had been secured to do so. I was assured by the bee-keeper where this young man had his bees that they had honey enough to winter, and I think they did have. So, one evening in October I drove home with those three hives, "my property," in the spring wagon, and an attack of genuine bee-fever in my bones. I was going to do great things with those bees. Well do I remember what air castles I built. But nothing could be done with them before the next spring, except to put them into winter quarters soon. The bee-keeper told me to put them into the cellar the way they were, and take off only the cover, leaving only a thin quilt over the frames. But as my father, being a farmer, wintered several hundred bushels of potatoes, besides many other things, in our cellar, I could find no room there for my bees. So I resorted to a small stone building, used as a milk-house in summer, as the next best place. This building had a 22-inch stone wall, plastered on the inside, also overhead, and whitewashed; wood floor, double window and double doors, and it was quite dry.

The south end and east side were partly in the ground. I concluded that this was a fine place for my bees. So I set them in there as directed, without the covers, and the entrance wide open. The quilt was the only cover. From time to time I would tiptoe in to listen to their roaring. One time in January or February I heard no roaring noise when I listened again. On lifting up the quilts and peeping in I found, to my consternation, that all my bees were—*dead!* What a fall from the dazzling heights of my imagined success! And how could they die with plenty of honey in their hives? It's all plain to me now. The extreme cold of January penetrated those walls until it was below the freezing-point inside, and the temperature in the hives sank so low that the bees could not break the cluster sufficiently to move to new stores: so when all the honey inside the cluster was consumed they starved. Had the covers been on those hives, and possibly the

entrance contracted *a la* Bingham things might have turned out favorably. A good thing in *one* place is not a good thing in *every* place; and even if the two places are no further apart than were that cellar and that deplored milk-house, it was a matter of "locality," after all.

New Memphis, Ill.



ENTRANCES TO HIVES IN A CELLAR; HOW TO CURE ROBBERING; THE CARE OF BEES IN THE SPRING.

I have been reading about your experiments with ventilated bottom-boards in the April 15th issue, p 557. I think hives need bottom-boards with merely a  $\frac{1}{8}$  entrance the width of the hive. I put 55 colonies in my bee-cellar about Nov 20. On a part of them I left the bottom-boards, and you would be surprised to see how much better they wintered. I always left them off every winter before, because almost every one else did.

Another thing about wintering that I have found helps out a great deal when the bees are through flying in the fall is to go to the hives and take out the lightest comb that contains no brood, and put a frame of nice clover honey in the center of the brood-nest. The bees will move a lot of that honey, and that will stimulate brood-rearing. What they move will be put close to the cluster to eat in winter.

Another thing I never saw in print. If your bees get to robbing, and they get whipped out, put them back down cellar, robbers and all; then when things get quiet, carry them out again.

If a man wants to make good wages in his apiary in the spring, take a dish of paste and a lot of strips of paper about two inches wide, and paste them around the cover, and wherever there is any chance for heat to escape or cold come in. R. T. CAREY.

Spencerport, N. Y.

A BEE-CELLAR WHERE THE TEMPERATURE VARIES BUT THREE DEGREES ALL WINTER

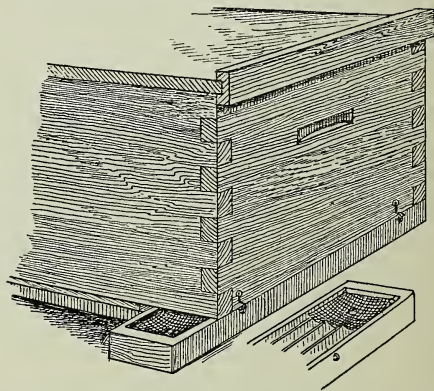
I have 178 colonies of bees in my bee-house cellar, wintering finely. The bees are quiet, for the temperature is only one degree colder at the bottom than at the top, 8 feet deep. It changes only three degrees, whether at zero or 50 above; stands at 44. The heat of the bees keeps it dry and warm. They need only 30 square inches for ventilation. I have four chimneys, one on each of the four corners, 12  $\times$  22 in., open  $\frac{1}{4}$   $\times$  22 inches. I have one more in the center, two feet high-

er, open  $\frac{1}{4}$   $\times$  22 inches. The corner ones are 13 feet high, resting on top of the floor. The one in the center is 8 feet above the floor; the floor is 5 in. thick, 2 of boards; paper and planer-shavings,  $\frac{3}{4}$ . It was an easy task to put them in, taking two men and two wheelbarrows to carry them in, putting 3 skids on the platform, letting them down with tackles. Then go down, pile them up five high, row 8 ft. high, 18 ft. square. I have a room over the cellar, of six-inch plowed and grooved siding, lined with paper; double doors 8 feet high, 4 windows, one on each of the four sides. It is a nice building, painted red with blue on each side; roof is of paroid paper; cellar walls are 12 inches thick, cement work, concrete cement bottom, using 6500 lbs. of best Portland cement.

Amity, N. Y., Jan 25. J. W. UTTER.

WIRE CLOTH OVER THE OPENING TO THE ALEXANDER FEEDER.

This is my second season in the use of the Alexander feeder. I have just added a device to it that pleases me greatly. It is simply a wire-cloth cover over the outer end of the feeder, depressed into a saucer-shaped receptacle to receive the feed. To fix the feeder, cut away the bars with a chisel so the center of the depression will be  $\frac{1}{8}$  inch in depth. The wire cloth is held in place by two small tacks driven through it into the



end corners of the trough, and one tack driven down into the center of the depression. For handling the feed I use a two-gallon sprinkler with the rose removed.

Farina, Ill.

T. P. ANDREWS.

[But this wire cloth ought to be covered with a block to keep chilling air currents going up into the hive and to prevent drawing robbers.—ED.]

CANDIED HONEY KILLS COLONIES IN THE CELLAR.

When our bees were taken out of the cellar the honey in all the hives was granulated. There was no moisture in it—just the dry sugar part. The combs of the hives in which the bees had died were gnawed by them in their effort to get the honey. This



was a mixture of honey from the earliest flows, probably mostly clover. It seems that this granulated honey caused the loss of these colonies. What caused the honey to granulate?

CHARLES M. HARRIS.

Jefferson, N. Y.

[We can not tell what caused the honey to granulate unless it was not properly ripened in the first place. No. some candied honey, at least that which has granulated solid and dry, is not a good winter food. But a soft moist granulated is not bad.—Ed.]

#### WEAK COLONIES WINTERED SUCCESSFULLY IN A DAMP CAVE.

Last summer was the worst season I ever witnessed for bees. The wet weather set in the last week in June, and was nothing but wet all summer and fall. There was no time during the summer and fall when bees could work more than two days out of each week, therefore every bit of honey was washed away so that the bees made no stores to live on.

I began feeding eight colonies in October; but I was a little careless and did not feed fast enough, so the bees ate the feed about as fast as I fed them; therefore, by the time cold weather set in I found that my young colonies had very light stores to winter on, so I had a small cellar (or, rather, a cave) in which I kept my winter vegetables, which was sufficient to keep vegetables from freezing. I thought I would risk putting my bees in, although it was very damp. I was afraid they would mold; but I put the bees in about Nov. 20.

I put wire screen over the entrance, and spread an oil-cloth cover over the top, and then put the super on. I cut a hole in the oil-cloth cover about one by two inches, right in the center, over the cluster, in order to feed if I found it necessary. The front entrance is  $\frac{3}{4}$  inch by 12, so I left them there until March 20, when the weather got so warm that I noticed the comb was getting moldy, and even the outside of the hive was molding. Then I placed them on the summer stand, and, to my surprise, they are all living and doing finely; and when I put them out they had scarcely any dead bees in the hives; and some of the strong colonies that I left out came near dying. I am now feeding the weakest ones a little, and all are doing well.

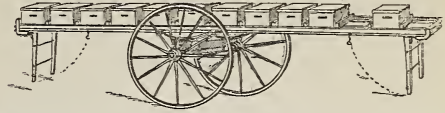
R. A. GRUN.

Scherr, W. Va., March 30.

#### CARRYING HIVES ON A TWO-WHEELED CART; TAKING OFF SUPERS DURING A HONEY- FLOW.

I think I have a better way to carry my hives out of and to the cellar (also to carry full supers to the house) than yours shown on p. 557, April 15. I have a two-wheeled hand-cart and a ten-foot ladder. I lash the ladder on the cart, set about ten hives on the ladder, and wheel it out or in alone; but, of course, I can't go up or down the stairs with it. I have wheeled eleven supers, well filled with section honey, at a load.

An improvement on the ladder would be to have a rack made as wide as the hive-bottom is long, and with a projection raised above the ends of the bottom-boards on each



side to keep hives from slipping endwise, and cross-cleats in the place of the rungs to hold them from slipping the other way.

Lamoille, Ill.

A. D. HOPPS.

#### SWARM FLIES TWELVE MILES.

The distance to which a swarm may sustain its flight is at least twelve miles, Aug. 15, p. 1070. Berlepsch followed a swarm that distance to a hollow pear-tree. See account in first or second volume of the *American Bee Journal*.

E. W. DIEFENDORF.

Otterville, Mo.

#### DO BEES SUPERSEDE QUEENS IN WINTER?

Will the bees supersede a queen during the winter, and thereby not secure brood until the virgin has mated? I found a very small queen in my neighbor's colony on the 18th of May, with very little brood, none capped; she, however, had just begun laying, and it occurred to me that such was the case. There were few bees—only enough to cover one Hoffman frame.

F. L. PARKE.

Paullina, Ia.

[The case here given does not show there was any supersedure. The small queen you saw was probably the old one. She may have stopped laying for the time on account of cold, and then begun laying again.

To answer your question, bees do not supersede their queens during winter.—Ed.]

#### WHAT DETERMINES THE SEX OF EGGS?

I have read the various arguments in GLEANINGS for a queen laying drone eggs, etc. I have had a little experience here that will probably throw some light upon the question.

In July of this year I had a mated (or else a virgin) queen that refused to be fertilized. She began laying eggs steadily in worker-cells. Of course, these produced nothing but drones. I did not discover this until about the first of August, when I killed her and introduced an old queen that I knew was all right. These worker-cells had been lengthened and expanded at the top for the developing drones, and so were not regular in size and shape when the drones left them. Now the old queen goes to laying in these cells, with the result that a fair-sized percentage of these eggs produced drones. We must remember that the swarming season and the honey season were past at this time of year here—namely, August, and the old queen certainly had no intention of laying drone eggs at this time of year; yet for some

reason drones were produced—seemingly an argument in favor of the position of the queen in depositing the egg in a wide-mouthed cell. The previous queen deposited drone eggs in worker-cells; but position could cut no figure with a virgin queen, for she could not lay a worker egg. I am not trying to solve this question, but think these facts may help some one else to solve the problem.

Portland, Ore.

P. J. GREEN.

This may give a little aid and comfort to Dr. C. C. Miller. Has any one else observed the same phenomenon? If so, we shall be glad to have him report.—ED.]

COMBS CONTAINING CHILLED BROOD; WHAT TO DO WITH THEM; EUCALYPTUS HONEY VERY RANK IN FLAVOR.

We had some brood that did not hatch on account of the cold. The combs are black, and in Langstroth frames. Would it be right to give the combs to another colony as they are, and trust that they will be cleaned up, or is it best to cut them out?

I have read the article on eucalyptus, by Mr. Morrison, in the March 1st issue of GLEANINGS, p. 327. Most of the article is right, but I think it might be better to find out more about those trees before extensively planting where honey-industry exists. They give a most disgustingly rank flavor to honey, which, if sold at all, realizes only about 1½ pence per lb. in N. S. W. It is recommended for people with chest troubles. I got some in Sydney some years ago, but we could not eat it. Probably that is why it is not looked upon favorably in England. Of course I do not say that all N. S. W. honey is bad, for that would be altogether wrong. I had some very good honey there.

STEPHEN ANTHONY.

Waitete, Auckland, New Zealand.

[It would do no harm to give the combs of dead brood to another colony if you are sure that chilling was the only cause of the death of the brood. The bees would clean out the cells. But if the combs were old and black it might be safer to render them up for wax, and substitute frames of foundation.—ED.]

HOW FAR AND HOW FAST DO SWARMS TRAVEL?

As to how far swarms may fly, page 1070, Aug. 15, I will say that in my 25 years' experience I never saw swarming bees as heavily loaded with honey as those working in the field, especially those working on bass-wood or clover, though quite a goodly number of returning field-bees join in the make-up of the new swarm, and many of them with pollen-baskets well filled, and possibly honey-sacs too. You would not think it would require three or four hours for a colony of bees to make a flight of ten miles, would you? In my opinion they would make at least ten miles per hour, and in some instances fifteen miles or even more, for I have seen them going fast enough to keep a smart horse going some. I have driven forty miles

in five hours, and I know an absconding swarm of bees will double this speed and more; but as to just how far they will fly depends upon circumstances.

Several years ago, before the advent of the Italian bee in this part of the country, my brothers found a swarm of pure Italians in a tree, and at that time there were no Italians known nearer than 25 miles in a straight line, though of course it might have been possible for them to have come from another tree between the two points, though I know they often cluster and rest for hours, or even half a day, while the scouts are searching for a hollow tree, and many times even stay over night, and if the scouts are unsuccessful they start out again and thus continue until they are successful.

Granted that they are loaded with honey when they start out, they must consume some of it on the way; consequently the further they fly the less burdened they are, which must fit them for a more prolonged flight.

Hillsboro, Wis.

ELIAS FOX.

QUEENS FIGHT UNDER A TUMBLER.

Replying to Dr. Miller's Straw, page 1187, Sept. 15, I rise to say that the queens were not put together on the ground, but under a tumbler, on a board or table. The experiment was usually tried during the month of August, because that is when I do most of my superseding, and the queens were invariably blacks or hybrids. I tried it about a dozen times in all, and the fight always began as soon as they touched each other. The doctor's case of three queens in one hive is certainly interesting; and if I had some spare queens I would try the same experiment; but I have none to spare at present.

Newman, Ill.

C. F. BENDER.

[We have had other reports since the item of Dr. Miller's, showing that two queens, when put together, will fight to a finish, so that we shall have to conclude that, under some conditions at least, queens when so placed will enter into a combat.—ED.]

HAY ON THE CELLAR FLOOR.

I made a trip to E. W. Alexander's last fall, with the result that, when I returned, I put 12 inches of swale hay over my cellar bottom before the bees were put in. I never had the colonies so quiet all winter, and they never came through in better shape. The temperature was more uniform all winter.

Mayfield, N. Y.

G. W. HAINES.

THE CASTOR BEAN AS A HONEY-PLANT; INFORMATION WANTED.

I have a great desire to plant the castor bean in my field this year, as it is an excellent honey-producer; but I do not know of any company of crushers (who crush out the oil), and I should like to see it, through your paper, I could find one. I have inquired at several places, and of castor-oil companies, but have failed to get the desired information.

I. A. PRUITT.

Vigo, Texas.





## OUR HOMES

by A. I. ROOT

Whosoever will be great among you, let him be your minister; and whosoever will be chief among you, let him be your servant.—MATT. 20:26, 27.

On page 1098, Aug. 15, I said that, when the whole wide world would "repent and be converted," it would not only solve our labor problem but all other problems, etc. A good friend takes some exceptions to the statement, and writes the following:

### "THE ONLY SOLUTION."

Mr. Root:—I notice with pleasure that the labor question is one of the many things you are interested in (page 1098), but have doubts as to the conversion of the world being the only solution of troubles in the industrial field. There is a large and rapidly increasing number of people who believe that labor troubles and a good many other troubles would or could be settled by the collective ownership of all the means of life—tools of production and machinery of distribution by the actual users thereof instead of by a class who act merely as owners, performing no useful service. This system of conducting industry could be inaugurated whenever a majority—not *all*—voted for it, and it is not quite clear that such majority must necessarily be made up of Christians or converted persons. Those who claim, therefore, that the conversion of all wage-earners and employers is the only solution should be able to show that the system suggested would not work, and also be able to give at least an outline of the probable procedure in settling labor troubles in the event of the conversion of the world. "An item in your Special Notices (p. 1168), entitled "Doing More than you are Paid to Do," appears to have some bearing on the subject, because labor troubles are usually the result of employees not receiving as much pay as they think they deserve. If workmen generally would make it a point to do more than they are paid to do, labor troubles would be settled to the complete satisfaction of employers at any rate. But if all or the majority of workmen acted on this advice, who would "get to the top"? And would doing more than they are paid to do be any evidence of their conversion? Employees as a class will never see any greater reason for their doing more than they are paid to do than they will for employers paying more than the wages agreed upon. J. R. HAND.

Richards' Landing, Ont., Aug. 20.

Friend H., I have been watching and reading more or less for years what is being said and done in solving the labor problem; but the results of my observations have been continually that nothing could help matters very much until all mankind learn to love their neighbor as themselves. When this is done our troubles will be ended. We have illustrations of it every little while. Let me remind you of one that I have brought up several times.

A wealthy man moved into a neighborhood where one of our bee-keepers had a large number of colonies of bees. In a little while the new comer declared that no man had any right to keep bees or any thing else, especially such a large number of bees, as to annoy and injure his neighbors. A lawsuit followed; but just while both parties were in the hottest of the fight the bee-keeper's son and the rich man's daughter became acquainted, and finally the two children got between the two hostile parties. Now, these men,

even if they were bitter enemies, had good sense enough and courtesy enough to stand out of the way of the young people and to shake hands and become friends. When they got to looking at it from another standpoint the matter of the bees (even though our friend had a big "bee-yard") was considered a trifling matter, and it was so easily adjusted they were both ashamed of themselves when they came to look at it in a common-sense way. Now, I did not learn that those two fathers were *converted* men; but this thing that came about had the effect of turning both of them in a sudden and unexpected way from their evil thoughts and feelings. Instead of being strangers and enemies, all at once they became brothers, members of the same family, and were put on their good behavior. Now, of course our boys and girls can not *always* come between us and settle things right and left in that way; but a kindly and loving spirit toward all humanity, planted in the human heart, will solve all troubles.

The great difficulty between capital and labor, so far as I can see, is that both parties, to use a slang expression, "want the whole earth." Of course, both sides are not always equally guilty. We have many illustrations of faithful, honest employees who are never appreciated by their rich and overbearing employers; and our unions are to a great extent bringing these greedy and tyrannical employers to their senses. On the other hand, we have overbearing and impudent workmen (and *workwomen*, too, for that matter) who do not appreciate or realize how kind and indulgent employers are who do every thing in their power to make them pleasant and good-natured, and yet without avail; yet these very persons are frequently exceedingly anxious to get back to their old employer when they have tried working for some one else. I shall have to confess that I have not time nor the ability to go into this matter of public ownership. I am ready, however, to say that it seems to me the government will in time be able to manage much of our public business (say our telegraphs and railroads, for instance), just as it now handles and manages the mails. If we were sure of being able to find good men, with enough Christianity, or, if you choose, the love of God in their hearts, to be above graft and bribery, and every thing of that sort, we might go ahead without fear. But, dear friends, just consider how the public money has been wasted right and left all over our land whenever there has been a chance to steal where nobody was appointed to watch or happened to be watching. Prison walls and high fences, even with a barbed wire on top, are of little avail unless men will "repent and be converted," and have a disposition of *their own* to be honest and do right.

In your closing sentence you seem to question somewhat whether Christian employers would pay better wages than they agree to pay. Of course, that clipping from the *Sunday School Times*, that so strongly enjoins doing a little *more* than you are paid to do,

must not be two-sided; and if you come to look into it I think you will admit that employers are *continually* paying more than they *agree* to pay. As soon as a man is discovered who is persistently and steadily doing *more* than he agrees to, his pay is usually raised; and not only that, I know of many employers who, when a man has done an extra day's work, recognize it by giving him extra pay. Just a few days ago we wanted our reservoir cleaned out; and on account of the muddy water it needed to be done when the machinery was not running. Two men volunteered to stay at home during "fair time" (when all the machinery was shut down) and do the work. I was along with them a great part of the time, and they got covered with mud from head to foot. There was nothing said about extra pay when they agreed to do the extra work, and I am sure that they did not expect it; but I told the clerk to give them a dollar apiece in addition to their wages.

During a dry time a Florida bee-keeper came pretty near having his apiary burned up. By working, however, until they could hardly stand up from exhaustion they finally put out the fire and saved the apiary. If I am correct, it came pretty near being a close tussle with the devouring element the greater part of one afternoon. The boy who helped the owner subdue the flames, even at the risk of getting pretty well scorched, received five dollars for doing more than he was paid to do or had any reason to expect he would be called on to do or endure; and I do think, since you suggest it, friend H., that employers, both men and women, should be exceedingly careful to be on the watch to see when their helpers have done an extra day's work or taken unusual pains to look after their employer's interests and reward them accordingly. I know by repeated experience that it is not so much the money received as it is the reminder and evidence of personal interest in the affairs of the employer. The man who hires help and does not go near that help to give encouragement to see whether the work is done right or wrong, and know just how much is being done for the pay received, will usually have trouble, and he *ought* to have it. The reason why I used the expression, "the only remedy," is because I have not been able to find any thing in an experience of more than sixty years of business life that will induce humanity to love its fellow-men like the gospel of Jesus Christ and the teachings of the Bible. I wish you would all read the *chapter* from which I have taken my text. The mother of those two disciples wanted them to have the best places. She was an ambitious woman. She wanted them promoted above the other ten. No wonder the ten were moved with indignation. Then the dear Savior kindly talked to them. He said that among the gentiles, or heathen world, it is the fashion for princes to rule and exercise dominion; and those that are great, to use authority; but he says to the little band, "It shall not be so among you." Then fol-

low the words of our text, "even as the Son of man came not to be ministered unto, but to minister." I rejoice not only in being called a servant but in feeling in my own heart that I *am* a servant—a servant of the Lord Jesus Christ; and, as a consequence, a servant under him to all humanity. My greatest happiness and enjoyment in this world is in helping somebody—especially some one who does not seem able to help himself, and do all in my power to give him help that perhaps nobody else would give. From my age and experience I frequently know how to do things in a way others have never heard of. When I first got up this morning Mrs. Root said she wanted to give the bedroom where we sleep a good "house-cleaning" before we take our trip to Florida. I urged her first to have a woman come over from the factory. But she has notions of her own; and when things are to be done she always has ways of her own; one of these ways of her own is of working until she gets tired, and then let every thing stop until she can lie down and rest. If she had a woman she would have to keep right by her to keep things going. Then I suggested that she get a *man*; but she said she did not want a man either, until she was ready to have the carpet whipped. I arranged my work so I could be around just about the time she got started. I helped her to get the heavy furniture out of the way, and pulled the tacks out of the carpet myself, and got it out on the line. We have only one carpet in the house that is tacked down. All the rest are rugs. I want to tell you I greatly enjoyed the work. I have worked for a good many people in my life, but I rather think I enjoy being a "servant" for Mrs. Root more than anybody else I know of in the whole wide world. I felt quite glad to think that I had helped to save her strength, and at the same time let her have the pleasure of enjoying in her own way the house-cleaning.

Now, it is certainly a good thing—yes, a *grand* thing—to help our wives; to put our own work aside and help them bear their burdens; but if we are followers of the Lord Jesus Christ it devolves upon us to love *all* mankind in the same way, or much the same way, that we love the members of our own family. More than that, the dear Savior has enjoined us to love even our *enemies*, and to do good to those that hate us and spitefully use us. If we will try to do this how can there be any trouble?

Friend H., I heartily agree with you on some of the points you make. For instance, there was a statement in the papers a few days ago to the effect that *one person* in the United States held *two and a half million* acres of land. Now, I do not know exactly what is wrong or where the wrong is; but I feel sure that no man ever ought to have control of that amount of land. That is quite a contrast, is in not, to the chapter in our tomato-book in regard to supporting a family on a quarter of an acre. I saw another clipping to the effect that, at a recent convention of liquor-dealers in Harrisburg, Pa., a



speaker boasted that they had seven and a half millions of dollars to put up to fight local option in Pennsylvania.\* Local option means letting the *people* decide whether they will have open saloons or not. The liquor people are going to spend \$7,500,000 in order to defeat the people in their attempt to let the majority rule. When money, or, if you choose, *millions*, make our laws, instead of the votes of the people, what are we coming to? I said I felt sure something was wrong when it transpires that one man has the ownership of two and a half million acres of land; and I do not know but I shall have to decide there is something wrong where one person has control of two and a half million *dollars*, especially if he proposes to use it to pile up still more millions for himself or a selfish gang. I do not know where the solution is coming from for these troubles that loom up before us. But I do know that God will guide us if we will but put our trust in him and obey his commands.

You say, "But if all or the majority of workmen acted on this advice, who would 'get to the top'?" Friend H., I think you misapprehend. If we all follow the Savior's teachings there would be no top nor bottom. Our inspiring motive should not be strife nor to get ahead of our fellows. When one does *more* than he is paid to do, his wages will be increased sooner or later, simply because his employer can *afford* to pay him more. Farmers are saying all over our land that they would put in more crops and cultivate more land if they could find competent help. The prices they have to pay for service rendered leaves no margin for profit, and they are obliged to give it up. It is the same way with manufacturers. If they could get men who would put their whole souls into their work they could afford to pay such men liberally. And it is even still more so in our homes. Our good educated intelligent women say they would like to raise a family of children if they could get somebody to help in the household—one who loves children, and who would work for wages that they can afford to pay. And so you see the high price of help (and *incompetent* help at that) is tending to "race suicide" as our good President has put it. The sixth chapter of Luke contains some wonderful precepts in regard to this same matter. Let me quote one:

\*Here is the clipping referred to:

#### OHIO ELECTIONS ALARM KEYSTONE LIQUOR MEN.

DEALERS WILL MEET THURSDAY TO RAISE FUND OF \$7,500,000 TO FIGHT LOCAL OPTION IN PENNSYLVANIA.

The Pennsylvania State Federation of Liquor Dealers will meet in Harrisburg, Thursday and Friday, to discuss plans to raise a fund of \$7,500,000 to fight local option in the State. The dealers are alarmed by the recent local-option elections in Ohio.

Of the sixty-seven counties of Pennsylvania, thirty-eight will be represented at the meeting. Efforts will be made to organize thoroughly in every county.

Temperance people in Pennsylvania are preparing for an aggressive local-option fight in the next Legislature.

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.

If we give good measure to our employers, or do a little *more* than we are paid for doing, we shall get it back again, and this has proven true the world over. We shall not only get it all back, but good measure, pressed down, shaken together, and *running over*. In other words, we shall receive from our fellow-men the same kind of service that we give them. If we scrimp in our measure it is not only human nature, but it is the way of the world, to give us scrimped measure in return. A good many times we get discouraged in thinking the measure that we have been giving has not been appreciated. Young people *especially* get impatient after they have worked extra hard to win approval, and then do not get it right away.

But another beautiful Bible text should come in here and make us patient. It is this:

Let us not be weary in well doing; for in due season we shall reap if we faint not.

If we hold right on to these two quotations I have made—Luke 6:38, and the one above, Galatians 6:9, we shall make progress, and get ahead in *any* community or *anywhere* on the face of the whole earth.



#### MULBERRIES IN FLORIDA AND IN OHIO; MULBERRIES AND THE FEATHERED TRIBES.

On page 599 of our issue for May 1, 1906, I described a wonderful mulberry-tree with branches away up above the dwelling, and said branches were just bending with the most delicious mulberries I ever saw or tasted. I told you Mr. Collins, the owner of the tree, said he did not know the name of it, but he said it was certainly a superior fruit—far ahead of any of the mulberries cataloged by the Reasoner Brothers near by. Well, last winter Mr. Collins was kind enough to send a dozen or more cuttings from the tree to our island. In a little while these cuttings made quite respectable little trees. I have not heard from them since. I talked with the Reasoner Brothers in regard to it, and have written them since, and have thought best to submit to you the following in regard to this excellent (and I should say *wonderful*) mulberry:

Dear Mr. Root:—I have examined into that mulberry matter, and think the variety is the Stubbs, a Southern sort, hybrid from the native Red and perhaps Downing (at least it shows the blood of the red variety), and is the finest sort we ever saw. Rains are light, but are doing lots of good. We shall be pleased to help you pick out some plants for the new Braidentown place personally. Please phone me

when next you propose calling, so I won't be "away with friends." Sincerely,  
Oneco, Fla., Sept. 7. REASONER BROTHERS.

Although they do not say so, I presume they will have cuttings and small trees for sale. I think I mentioned before, that in many places in Florida they grow mulberries especially for poultry. If grown in the poultry-yard the fowls give them cultivation and fertilization free of charge, and they harvest the crop free of charge—that is, when it falls on the ground. All of the feathered tribe seem to be especially fond of mulberries. Here in our Medina home we have a Downing Everbearing that is now larger than a very large apple-tree, and this last spring it was a perfect mass of bloom. It seemed as if the tree could not possibly hold and ripen so much fruit; but just as soon as the first ones began to turn red, long before they were dead ripe, the robins and other birds saved us the trouble of harvesting the crop. What they did not pick off and swallow they dropped on the ground for the Indian Runner ducks; and although the tree bore fruit for weeks and months we never got a ripe berry. My son Ernest has a new and improved variety, I do not know the name, that bore berries a year ago almost equal to the large luscious ones I found in Florida, and we were looking forward this season with much anticipation to this delicious fruit; but, alas! the birds found the trees *this* year, even if they did fail to notice it a year ago, but no fruit was allowed to ripen. It has been just the same during the past season with cherries. We shall either have to plant cherry-trees enough to supply the birds, and more too, or else we shall have to curtail by some means the "supply" of birds.

Before closing I wish to call attention to the fact that the mulberry in Florida makes a most wonderful growth. A cutting in a single year will grow away above your head; and the next year, with every thing favorable, it may make quite a good-sized tree and bear a good lot of fruit.

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## Temperance.

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DOES A GREAT CITY NEED A SALOON TO  
HELP PAY ITS TAXES?

Let those who think so, read the following from the *Christian Herald*:

Knoxville, Tenn., is a prohibition city. In the days of the saloon it had a population of 35,000, and its criminal costs were \$50,074 76. Now it has a population of 50,000, and the criminal costs have gone down to \$2,076.21—a sufficient answer to those who put forward the absurd claim that a city needs the saloon to help pay taxes and make it prosperous.

"FIGHTING MOTHERS," ETC.

*Mr. Root:*—Some time last spring you told us how heroically one of your hens on the island defended her chicks. We have a neighbor across the way who raises a good many chickens. He also owned a huge Maltese cat. One day we heard a great outcry, and noticed that the cat was catching and killing those little chicks right before their mother's eyes, and she rendered them no assistance, and why? She was in a coop. I thought, "Poor mother!" But how many

mothers are obliged to stand and see their boys caught and dragged off into dens of iniquity, but still can do nothing? They are cooped. They are women. They have no voice in making the laws. I do trust that you will raise your voice like a trumpet, for it always has the right ring.

My daughter Nellie and I expect to spend this winter in St. Petersburg, Fla. We have some friends there. We expect to rent a small house one mile out of the city, on a trolley line. We don't expect to live very grand, but hope to avoid the cold winter.

I once taught school in Medina Co., and Mr. Barnard was the man who examined me and gave me a certificate.

W. C. GAULT.

Savannah, O., Sept. 21.

My dear old friend, your suggestion is a good one. Yes, you are right. The mothers of our boys and girls here in our United States of America are at present, at least to a certain extent, cooped up. To our *shame* we must acknowledge that it *is* true that, while the saloon-keepers are laying their snares and traps for the mothers' boys—yes, and girls too—when they can, these mothers are, to a certain extent, helpless. While I write they are not permitted to have a vote as to whether saloons shall be located near their doors or not; but, God helping, this thing shall not continue long. I am expecting to hear every day the good news that our mothers, sisters, and daughters shall have a voice in saying whether or not our land shall be cursed with these devil traps or not. Thanks for your suggestion; and it may happen in God's providence that I may make you a brief call in your Florida home, and then we will talk about the time when we went to school to S. G. Barnard.

GOOD WHISKY AND BAD WHISKY.

We copy the following from the *Maine Farmer* for July 4:

Of the 8000 places in New York dealing in liquor, all but 700 are said to sell adulterated whisky which costs only 40 cents per gallon to manufacture. This goes over the bars at 15 cents a drink. In the face of such profits, and the pressing need of this class of people for money, is it any wonder that the saloon evil is a difficult proposition to handle?

Why, what is the matter with the York State people, any way? Why don't they get a move on them as they do here in Ohio, and enforce the pure-food laws, even if they are unable to enforce the laws for temperance?

INTEMPERANCE IN THE BARBADOS.

*Mr. Root:*—GLEANINGS for March 1 came to hand a short time ago. I notice your inference from my letter on p. 344 and must hasten to remove a misconception. The government taxes liquor here *very heavily*, along with all luxuries. It has no favor to pay to the drink-traffic, however. Public opinion is dead against intemperance, and a large section regard even moderate drinking as injurious. In my district of nearly 3000 people there are only two men selling drink, and they sell it as an adjunct to their provision business. There is not sufficient drink business done to provide a living for even one man.

Wages in the island are low; and the man who would waste his money in drink when there is so much otherwise that he ought to do with it would be rebuked severely by the neighborhood. This is the feeling here, and I believe it is the same to a greater or less extent all through the island. So it happened that, not long ago, I noticed the official returns for a quarter for drunkenness showed 3 cases, while the largest number I have noticed in any quarter has been 22.

W. G. HUTCHINSON.

Boscobel, Barbados, March 19.



**WANTED.**—Fancy clover honey, both comb and extracted. Send average sample of extracted honey, and give lowest price.  
J. E. CRANE & SON, Middlebury, Vt.

**WANTED.**—To buy for cash, comb and extracted honey, also beeswax.  
ROBT. A. HOLEKAMP & SON,  
4263 Virginia Av., St. Louis, Mo.

**WANTED.**—I will pay 9 cts. per lb. for well-ripened white-clover honey in 60-lb. cans f.o.b. here; or will sell sweet-clover honey of like quality at the same price.  
B. WALKER, Clyde, Ill.

**WANTED.**—Comb and extracted honey, car lots or less; paying 8½ cts. F. O. B. Milwaukee for extracted clover or basswood. Cash on arrival.  
E. R. PAHL & CO., Broadway, Milwaukee, Wis.

**WANTED.**—No. 1 and fancy comb honey; 4x5x1½ section preferred. Also light extracted. Must be guaranteed pure. Write, stating grade and how put up, and lowest cash price.  
C. M. CHURCH, Arnold, Pa.

## Honey and Wax For Sale.

**FOR SALE.**—Rich, ripe, light-amber fall honey at \$5.25 per can of 58 lbs. net. Sample 6 cts.  
R. & E. C. PORTER, Lewistown, Illinois.

**FOR SALE.**—800 pounds of pure beeswax for sale. Refuse from wax-extractors wanted. Will pay cash.  
W. L. COGGSHALL, Groton, N. Y.

**FOR SALE.**—Fine white honey, two cans in case, 124 lbs. at 9 cts. per lb.; 10 cases, 8½ cts. Sample, 10 cts.  
I. J. STRINGHAM, 105 Park Pl., New York.

**FOR SALE.**—Extra quality clover and basswood extracted honey in new 60-lb. cans.  
F. W. LESSER, Sta. A., Syracuse, N. Y.

**FOR SALE.**—Fall-gathered honey, with sufficient buckwheat to give it a buckwheaty flavor. In 60-lb. cans. Sample, 10 cts.  
JAMES MCNEILL, Hudson, N. Y.

**FOR SALE.**—Three tons of comb honey—A No. 1, white, \$4 per case; No. 2 white, \$3.50; amber or buckwheat, \$3 per case; 24 Ideal sections in glass-front case, less than four-case lots, 25 cts. per case extra; honey all well ripened, amber extracted, in sixty-pound cans, two to a case, eight cents per pound.  
QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

## Bee-keepers' Directory.

**QUEENS.**—Clover stock. Experience and methods count. Write me.  
H. G. LARUE, LaRue, Ohio.

**ITALIAN queens** bred for honey, untested, 75c each.  
GEO. H. PLACE, 816 No. 49th St., Omaha, Neb.

**Extra honey queens** and choice mountain honey.  
Francis J. Colahan, Bernardo, San Diego Co., Cal.

**QUEENS.**—Pure Gold, Red-clover, Caucasian, Banat, ROSE LAWN APIARIES, College View, Lincoln, Neb.

**ITALIAN QUEENS.**—Golden and leather, 60c each; worth \$1.00.  
G. W. BARNES, Box 340, Norwalk, O.

**Bee-keepers' supplies, Italian queens.** Send for a free catalog.  
ARTHUR RATTRAY, Almont, Mich.

**ITALIAN BEES** and queens—Red-clover strain imp'd mothers. A. W. YATES, 3 Chapman St., Hartford, Ct.

**ITALIAN BEES**, queens, and Root's bee supplies.  
E. SCOGGIN, Carlsbad, N. M.

I club a high-grade Italian queen with GLEANINGS, new or renewal.  
W. T. CRAWFORD, Hineson, La.

**ITALIAN BEES** and queens—red-clover and golden strains.  
E. A. SIMMONS, Greenville, Ala.

**Well-bred bees** and queens. Hives and supplies.  
J. H. M. COOK, 70 Cortlandt St., New York City.

**ITALIAN bees** and queens bred for honey; price list free.  
B. F. YANCEY & SON, Angleton, Tex.

**FINEST Golden** and red-clover queens, Caucasian and Carniolan. DANIEL WURTH & GRANT, Pitkin, Ark.

**ITALIAN and CAUCASIAN bees** and queens of best quality; price list free. A. E. TITOFF, Iamosa, Cal.

**FOR SALE.**—Golden and red-clover Italian queens.  
WM. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

**SWARTHMORE Golden-all-over**, Caucasian, Banat, Carniolan, Cyprian queens. E. L. Pratt, Swarthmore, Pa.

**GOLDEN yellow Italian queens**—my specialty. Price list free.  
E. E. LAWRENCE, Doniphan, Mo.

**ITALIAN BEES**, queens, honey, and ROOT'S bee-keepers' supplies.  
ALISO APIARY, El Toro, Cal.

**FOR SALE.**—Root's bee-supplies, wholesale and retail; factory prices; catalog free. Beeswax wanted.  
W. E. TRIBBETT, Staunton, Va.

**GOLDEN-ALL-OVER Caucasian Banat bees** and queens. We book orders for early queens from our best imported breeding stock for honey, with 600 twin mating-boxes. THE SNYDER APIARIES, Lebanon, Pa.

**QUEENS.**—Improved Red-clover Italians bred for business; June 1 to Nov. 15, untested queens, 60c; tested, \$1.00 each. Safe arrival and satisfaction guaranteed.  
H. C. CLEMONS, Boyd, Ky.

I must say to my friends, please do not send me any more orders for queens this season, as my health is so poor I find it impossible to continue queen-rearing. Thanks to all my friends for their very liberal patronage.  
W. W. CRIM, Pekin, Ind.

**IMPROVED ITALIAN QUEENS** now ready; nuclei and colonies about May 10, Danzenbaker or L. frames; 20 years a queen-breeder; 500 colonies to draw from. Circular and testimonials free.  
QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio.

**ANGEL'S GOLDEN BEAUTIES** and his bright three-banded Italian Queens have but few equals and no superiors. A fine large queen of either strain for \$1.00; an extra select breeder for \$2.50. I have had 12 years' experience at queen-breeding. Address  
SAMUEL M. ANGEL, Route 1, Evansville, Ind.

## Convention Notices.

The 28th annual convention of the Colorado State Bee-keepers' Association will be held at the Chamber of Commerce Building, Denver, Nov. 19—21 inclusive. The program will be published later on. It is expected that some prominent bee-keeper will make a practical demonstration of "shook swarming" in a wire cage, and many other stunts which will prove interesting. It is expected to have a contest of putting up sections; also a prize given for the best work and speed in putting up the same.  
S. FRANCIS Secy,  
Erie, Col., Oct. 15, 1906.



#### BARNES' FOOT-POWER SAW.

We are prepared to furnish a Barnes foot-power machine which sells for \$35.00, including a dado head, for \$35.00 net cash. The machine is second-hand, but represented to us to be practically as good as new, having been used but a very little. Shipment would be made from Battle Creek, Mich.

#### SHOP-WORN OBSERVATION HIVES.

We have a few varnished observation hives, both one-frame with super and ten-frame, which have been in sample-rooms, and are not as fresh and bright as new goods. We offer these, while they last, at 20 per cent discount from list price.

#### ADVANCE IN PRICE OF BUSHEL BOXES.

Because of increased cost of lumber we are obliged to mark up the price on bushel crates and boxes. Until further notice the price of all-slatted bushel boxes, 14 to crate, is \$2.10 per crate; 12 to crate, \$1.90; galvanized bound, 12 to crate, \$2.50. A corresponding advance is made in wholesale and jobbing prices.

#### DEATH OF MRS. GEO. W. YORK.

We are very sorry to record the death, which occurred on October 14th, last, of Mrs. Geo. W. York, wife of the editor of the *American Bee Journal*. She was a most estimable and lovable woman, and her death will be mourned by a very large circle of friends. She has attended one or two of the National conventions and several conventions of the Chicago Northwestern. We feel sure that Mr. York will have the sincerest sympathy of the whole GLEANINGS family.

#### A GERMAN REVISION OF THE A B C OF BEE CULTURE.

We now have on hand 1000 copies ready for distribution. This edition is a translation of the edition for 1905; but it contains some new articles that were taken from the new edition of the A B C book, which was being prepared when this translation was made. We anticipate quite a demand, as we have a good many bee-keeping friends who, while they speak English, yet the language of their fatherland is more familiar to them. We are now able to supply them with our book in their own tongue. The regular price of this work, owing to the great expense of the translation, will necessarily be a little higher than the English—viz., \$1.75 in paper, or \$2.00 cloth-bound.

#### YELLOW-SWEET-CLOVER SEED.

Our repeated calls for seed of yellow sweet clover have not brought to light a single offering as yet. This being an earlier variety than the white, it is probable that the seed was too far advanced, and dropped off before it was known that seed was wanted. Unless we are able to locate a supply of seed of this variety we shall be unable to furnish any till another season's crop is gathered, when we trust some of those who are growing this variety will save the seed. We have not yet secured enough seed of white sweet clover for the coming season. If our readers know of any lots of seed of either variety available we should like to get a sample, with price asked. State also the quantity in pounds which can be furnished.

#### SIMPLEX AND NO. 25 JARS AT LAST.

As we go to press we are receiving from the factory the carload of jars which were to have been shipped last August. Some of the large orders which have accumulated have been filled direct from the factory. We are now in shape to supply promptly No. 25 jars

holding 1 lb. of honey, 2 dozen to the case, at \$1.10; 6 cases, \$6.30; 20 cases or more at \$1.00 a case.

Simplex jars holding 18 oz. of honey, 2 dozen to the case, at \$1.15 per case; 6 cases, \$6.60; 20 cases or more at \$1.05 per case. This simplex jar is over-size for one pound of honey, but are the best we can do in this style. There seems to be a great difficulty in producing this style of jar with a glass cap which screws on, especially the cap with internal spiral thread. There is a small stock of the 1-lb. size in our Philadelphia branch; but aside from these the 18-oz. size is the only one we can furnish.

#### CHANGES IN PRICES FOR 1907-8.

Up to this time we have determined on the following changes in list prices. During the past season we have worked off our surplus stock of No. 2 plain sections so that from this date forward, until further notice, the price on B grade or No. 2 plain sections will be 25 cents per 1000 higher than the rate given in our catalog.

We cut out the dozen rate on No. 30 wire on spools, and increase the 5-lb. coils to \$1.00 each.

B. P. S. paint for hives is advanced to \$1.75 per gallon; 90 cts. per  $\frac{1}{2}$  gallon; 50 cts. a quart; 30 cts. a pint.

Painted wire cloth is advanced to  $\frac{2}{3}$  cts. per foot for cut pieces; 2 cts. in full-roll lots. Galvanized wire cloth, 8 mesh, is advanced to 8 cts. per sq. ft.

The A B C of Bee Culture, very greatly enlarged and improved, printed on enameled paper, is advanced to \$1.50 postpaid; \$1.25 with other goods by freight or express. The new edition will not be completed till November. Half-leather editions will be \$2.00; full leather, \$2.50.

There has been an advance of over 30 per cent in material for bee-veils, and new prices are adopted as follows: No. 1, all silk tulle veil, 90 cts.; No. 2, cotton tulle with silk face, 60 cts.; No. 3, all cotton tulle, 50 cts.; No. 4, mosquito-bar veil, 30 cts.; bee-hat, 30 cts.; silk tulle per yd., 60 cts.; cotton tulle per yd., 25 cts.; mosquito-bar, per piece of 8 yds., 75 cts. No change in globe veil.

#### EARLY-ORDER CASH DISCOUNT.

We have been obliged to cut down the early-order cash discount below that offered in former years; but it is still sufficiently liberal to pay transportation charges quite a distance, or to pay liberal interest on the money invested in supplies early, and should attract those forehanded people who know pretty well what they want for the coming season.

The following is the schedule of discounts for early cash orders for bee-keepers' supplies, subject to the conditions below:

For cash sent in November, deduct	$\frac{4}{2}$ per cent.
" " " December, "	4 "
" " " January, "	$3\frac{1}{2}$ "
" " " February, "	3 "
" " " March, "	$2\frac{1}{2}$ "
" " " April, "	2 "

The discount is only for cash sent before the expiration of the months named, and is intended to apply to hives, sections, frames, foundation, extractors, smokers, shipping-cases, cartons, and other miscellaneous bee-keepers' supplies. It will not apply on the following articles exclusively; but where these form no more than about one-tenth of the whole order the early-order discount may be taken from the entire bill: Tinned wire, paint, Bingham smokers, Porter bee-escapes, glass and tin honey-packages, scales, bees and queens, bee-books and papers, labels, and other printed matter, bushel boxes, seeds, and other specialties not listed in our general catalog.

#### CANADIAN WILDS.

This book is one of a series published by the editor of the *Hunter-Trapper*. It deals largely with the life of a trapper in the wilds of the Dominion of Canada, and the author was for many years employed as a buyer of furs for the Hudson's Bay Company, one of the most remarkable business concerns ever organized. The author is remarkably modest and sincere in his statements, and for that reason the book may be recommended to any one interested in the life of the northern wilderness. Those who are thinking seriously of taking up land in the Canadian Northwest will doubtless be much interested in the simple story of a man who has spent many years on the northern frontier. Naturally he tells some of the "secrets" of the trapping business, particularly how much money



the hunters make, and it is evident some of them do very well at it.

Information of this kind that can be relied on is scarce and often quite unobtainable, as information about the Hudson's Bay Territory was always hidden until a few years ago when the land was thrown open to settlement. Many Americans of late years have gone to Canada with the object of engaging in farming, and many of them have become trappers during the winter, when the icy hand of Jack Frost has every thing frozen hard. The country is naturally adapted to fur-bearers, so nearly all farmers become trappers very quickly. For this reason the book will have a ready sale. The price is reasonable (60 cents), and we can club it with GLEANINGS for \$1.30. Canadians will be obliged to pay a little more, the same as for Fox-trapping and Mink-trapping.

## Special Notices by A. I. Root.

### PUBLIC OWNERSHIP, ETC.

After my remarks on page 1391 were printed, a friend ("Neighbor H.") suggested that our pavements and sidewalks in towns and cities are made by the people, owned by the people, and used by the people, and that the arrangement also seems to be fairly satisfactory all around. Where the matter is properly managed we get these excellent things at cost, and everybody has the benefit of them without paying a cent *more* than cost. While we are about it we might say that the free schools of this our free land are also managed much in the same way. Now, why should we not have a parcels post to let our people, especially our hard-working people, have the things they want transported at cost, or pretty nearly that, in the same way that we have our sidewalks and pavements, instead of paying the express companies untold millions in the way of undeserved profits. I came pretty near saying *insurance* companies instead of express companies; and I do not know but I should have hit the nail on the head had I done so. Hurrah for parcels post! We are told it is coming, and is already on the way.

### BASSWOOD-TREES FOR FALL PLANTING.

In our last issue, page 1349, I said "1 to 5 feet, 75 cts. for 10," meaning that we would send ten little basswood-trees, running from 1 to 5 feet in height (*averaging*, perhaps, 3 feet), for 75 cents. Several of our friends seem to have gotten the impression that we gave 10 trees, all five feet high, for 75 cents. But we can not fill such orders without writing back. The reason why we say "from 1 to 5 feet" is this: The trees do not all grow alike as they stand in nursery rows. Some will be a foot high, others 2 feet, some 3; a few will be 4 or 5 feet high. When we take up the trees we want to clear the ground so as to plant something else. Accordingly, we advertise to take up 10 trees just as they come, only we do not take any under a foot, and probably none over 5 feet. These prices are for trees to go by express. Where we send them by mail we seldom take any much over a foot. We have now had sufficient frosts so that the leaves are dropping, and we are prepared to fill all orders promptly. I suppose we can fill an order for trees 5 feet high if we go all over the nursery and pick out the largest ones; but we should have to have double prices or more if we did that, and we do not like to do it, as it would not be fair to the rest.

### "PROFIT-SHARING," ETC.: AND THE PREMIUM BUSINESS IN GENERAL.

We are pleased to note that Montgomery Ward & Co., in their last catalog, say they will not, after this year, give "dividend certificates," etc. They say in regard to it, "We will admit we entered into it (the above) with reluctance. Our business has been built up on a strictly cash basis, giving full cash value for cash received." I want to say that I for one have been having, for some time past, a growing feeling of dislike for all sorts of schemes for making customers a present in a straightforward legitimate business; and I believe the world generally is in favor of getting what it wants at a reasonable price—a *close* price if you choose to put it—for *spot cash*, and let that end the transaction. For instance, I am sure that the great bulk of the regular subscribers of GLEANINGS would prefer to have "their money's worth" in that journal rather than to have any sort of premium or

present thrown into the transaction. There may be circumstances that justify things of this kind. As an illustration, in order to get that exceedingly valuable work, Holden's corn-book, into the hands of as many people as possible at once, the *Farm News* people offered to make every subscriber a present of the book by sending 50 cents in advance for the *Farm News*. But even then a good many people got the corn-book who do not want it, because they have nothing to do with growing corn.\* Now in regard to this journal: I think the majority of our readers will prefer, when they send money for GLEANINGS, to have that and nothing else, as far as the money will go or pay for; and as it is some little trouble to send a dollar each year, a good many remit for a year or two in advance. Sometimes they neglect it, and do not send the money in advance. Now, to accommodate you all, we offer GLEANINGS three years for \$2.00, or five years for three dollars. This is only 60 cents a year, and that is our lowest clubbing price, without any premium or anything else thrown in. Now, to make it still easier, especially on those who have neglected to renew promptly, we will say that any subscriber who pays up all *past* dues, and sends us as much as \$3.00, may have the journal for five years for \$3.00, including the past that is not paid up, as well as the future. In other words, when you find you are owing for GLEANINGS, and have not paid up, remit us \$3.00, and then it costs you only 60 cents a year, past as well as future. Can you afford to pay a dollar a year when you can so easily get it for 60 cents? This liberal offer is from your old friend A. I. Root, and I hope many of you will take advantage of it.

### SASHES FOR HOT-BEDS, COLD-FRAMES, AND LITTLE GREENHOUSES.

Now is the time to begin to think of giving some protection to plants and flowers that are to be wintered over; and there is not only pleasure but profit in seeing stuff grow all winter long. With a few sashes you can make a cold-frame that will grow lettuce, cabbages, and a lot of hardy stuff without any heat; and when you get ready toward spring, with fermenting stable manure you can get both pleasure and profit from the hot-beds. With a dozen sashes or less you can make a greenhouse opening out from your cellar so you can grow vegetable-plants and other things; and with present prices for almost every thing grown under glass you can make a profitable investment of your time on stormy days, and even keep your hired help busy that would otherwise be unemployed. Any one who does just a little in the way of market-gardening should have some sashes and start a little greenhouse. Now I have just sent for samples (so as to be up to date) of the latest and most improved patterns of hot-bed sashes to be found in and around our largest cities; and while we are making them of late of cypress, the best wood in the world for the purpose, our prices are still unchanged. We keep constantly in stock, ready to ship, sashes both in the flat and nailed up.

### PRICES OF OUR LATEST IMPROVED COLD-FRAMES OR HOT-BED SASH MADE OF CYPRESS.

Price of one sash, in the flat, for sample, without glass, 90 cts.; 5 in the flat, 85 cts. each; 10 in the flat, 80 cts. each. Glass, 8x10, just right for the above, \$2.90 per box of 90 lights; 5 boxes, \$2.80; 10 boxes, \$2.70.

Sash put up, no glass or paint, 10 cts. each extra; 10 cts. each extra for each coat of paint, and \$1.15 each extra for glass set in place, making the sash put up, painted two coats, and filled with glass, at \$2.25 each in lots of 5. The risk and freight charges are so much more shipped put up with glass that we do not recommend you to order this way, and we can not well pack less than five sashes.

We would not advise shipping a less number than five; but if you take our advice you will have all your glass sash shipped in the flat. In this case they go as fourth-class freight; whereas, all complete they will have to go as first-class, and some roads rate them as double first-class.

\* As an illustration of the way the premium business often works, some years ago we advertised to give every subscriber to GLEANINGS one of our agricultural books; and I instructed the clerk to use such books as we had the largest stock of when the subscriber did not say what book he wanted. Pretty soon a friend down in Florida complained because we had sent him as premium "The Winter Care of Horses and Cattle." He said that, where he lived, he did not have any horses, nor cattle either, because they did all their traveling by boat; and, furthermore, in their locality they did not have any winter. What use would such a book be to him under such circumstances?

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